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ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE II INVESTIGATION

NYD986866390
NEW YORK EMULSIONS TAR PRODUCTS
UTICA (C)

SITE NO. 633031
ONEIDA (C)

Prepared for:

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road, Albany, New York

Thomas C. Jorling, Commissioner

DIVISION OF HAZARDOUS WASTE REMEDIATION

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FEBRUARY 1992

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE II INVESTIGATION

NEW YORK EMULSIONS TAR PRODUCTS
633031

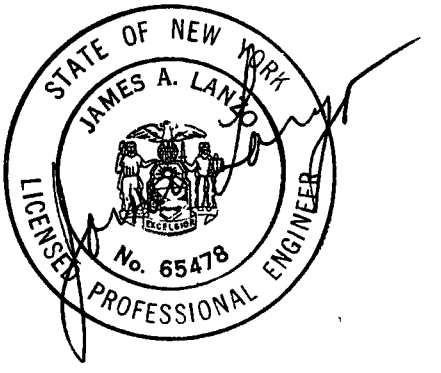
UTICA (C), ONEIDA (C)

FEBRUARY 1992

Performed Under
NYSDEC CONTRACT NO. D002340
NYSDEC WORK ASSIGNMENT NO. D002340-3

By
URS CONSULTANTS, INC.
570 DELAWARE AVENUE
BUFFALO, NEW YORK 14202

For
DIVISION OF HAZARDOUS WASTE REMEDIATION
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



NEW YORK EMULSIONS TAR PRODUCTS

NYSDEC PHASE II INVESTIGATION

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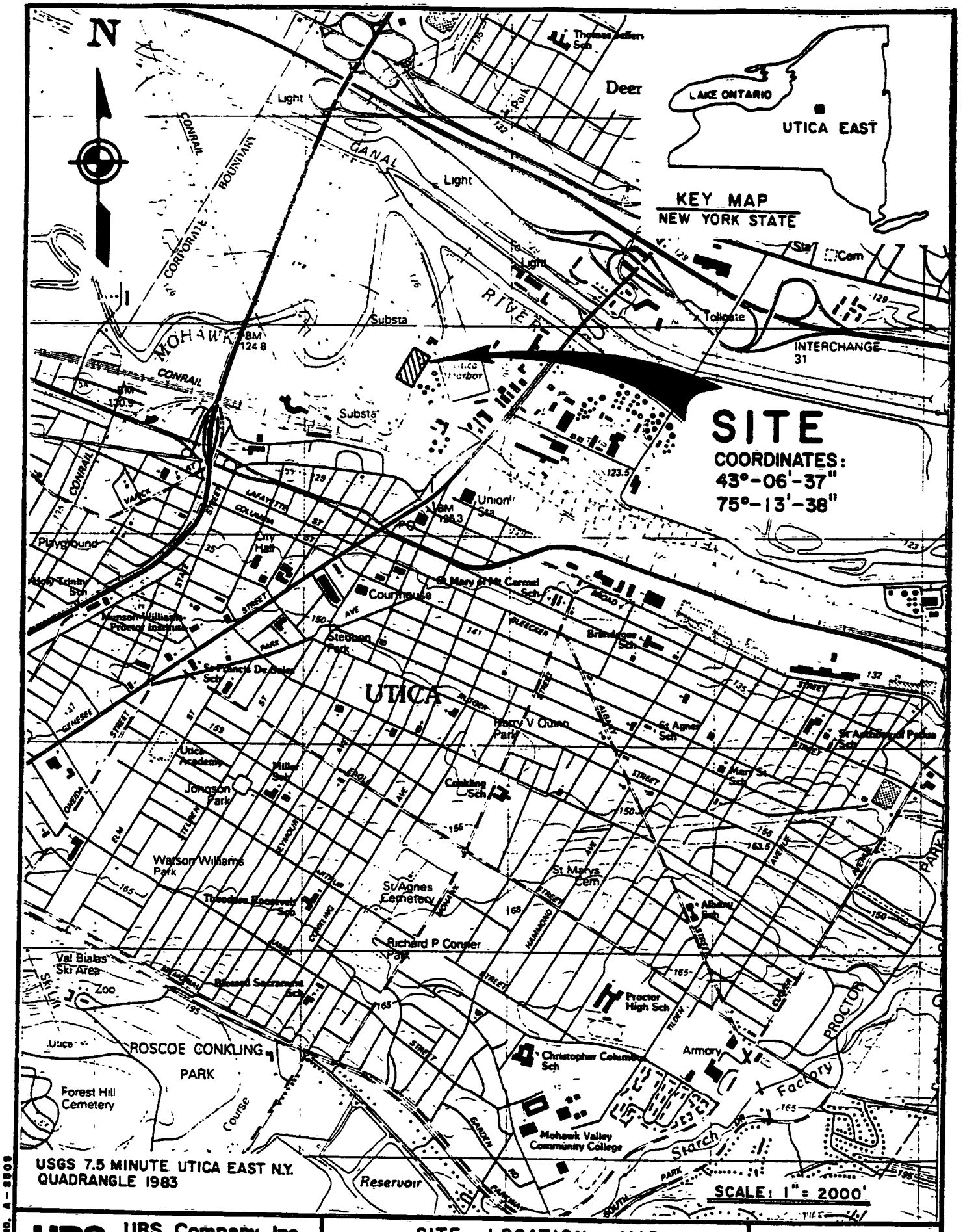
1. EXECUTIVE SUMMARY

The New York Emulsions Tar Products site is located on a peninsula known as Harbor Point in the northern part of the City of Utica, Oneida County, New York (Figure 1-1). Harbor Point is bounded on the north and west by the Mohawk River, and on the east by Utica Harbor. The New York Emulsions Tar Products site is situated on the southeastern portion of Harbor Point (Ref. 5). The 2.96-acre site is currently owned by Suit-Kote Corp. of Cortland, New York. At present, the site is vacant and all former structures (tanks and associated asbestos insulation, buildings, electrical transformers, and approximately 140 tar-filled 55-gallon drums) were removed or dismantled by 1988 and the lagoon has since been filled. Suite-Kote used the facility to manufacture emulsified asphalt and purchased the site from Koppers Products Company in 1977. Koppers used the facility for manufacturing road tar, pitches, and creosote oils utilizing coal-tar residues from the adjacent Harbor Point coal gas production plant. Apparently, no waste byproducts were generated by Suite-Kote in the manufacture of emulsified asphalt. There is no documentation of hazardous waste disposal at this site. However, numerous tarry pools were observed oozing from the ground during the Phase II field investigation. Photographs taken during the site reconnaissance are presented as Figure 1-2.

The New York State Department of Environmental Conservation (NYSDEC) has classified this site as 2a. The site was originally placed on the Registry of Inactive Hazardous Waste Sites in March, 1987 based on results from a Remedial Investigation (RI) of the Harbor Point property conducted by Calocerinos & Spina for Niagara Mohawk (Ref. 22). Results of the RI indicated groundwater in the vicinity of the site was contaminated with benzene and naphthalene. Calocerinos & Spina reported that the New York Emulsions Tar Products site may be the source of the contaminants, and thus, the NYSDEC suggested the need for further action. In February 1990, URS Consultants, Inc. completed a Phase I Investigation of the New York



URS Company, Inc. CONSULTING ENGINEERS NEW YORK NEW JERSEY	SITE LOCATION MAP NEW YORK EMULSIONS TAR PRODUCTS	FIGURE 1-1

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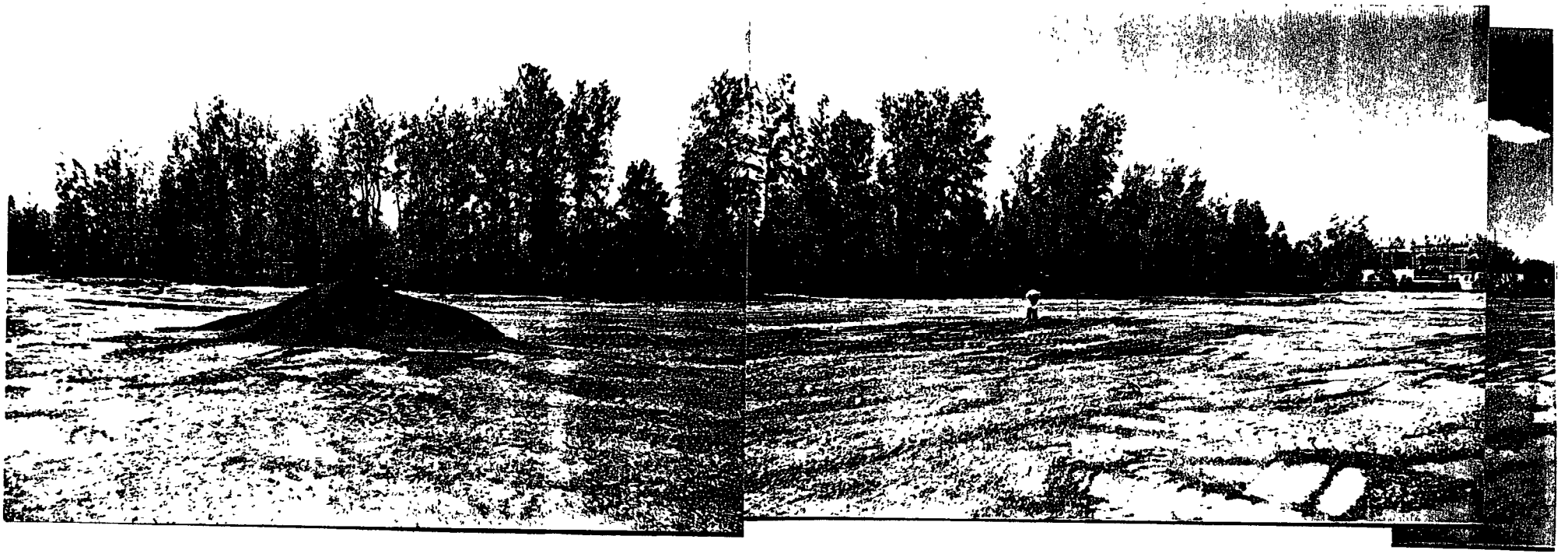

A panoramic view of the New York Emulsions Tar Products site. The site has been cleared and is now covered with gravel.

FIGURE 1-2 SITE PHOTOGRAPHS
N.Y. Emulsions Tar Products

Emulsions Tar Products site. Results of the Phase I effort indicated that a Phase II investigation should be conducted based on the need for additional information to conduct a proper site assessment.

Four other hazardous waste sites are located within 1000 feet of the New York Emulsions Tar Products site. Hazardous waste studies have been conducted or are ongoing at all 4 sites. The sites are: Niagara Mohawk's Harbor Point property (Site # 633012); the Mohawk Valley Oil site (Site #633032); the Monarch Chemical site (Site #633030); and the Utica Harbor (Site #633018) (Figure 1-3).

Geology of the site area consists of 6 to 12 feet of heterogeneous fill overlying silty clay. The surficial fluvial deposits are underlain sequentially by glaciofluvial sands/silts/gravels, glaciolacustrine silts and clays, lodgement till, and the Utica Shale bedrock at approximately 85 feet below grade (Ref 2). Depth to groundwater generally ranges from 1 to 5 feet below grade. Approximately 120 groundwater wells serving 456 people are located within a three-mile radius of the site. However, these wells are located in the Towns of Deerfield and Marcy, which are upgradient of the site and across the Mohawk River. The remaining population is served by the Utica Board of Water Supply, whose intakes lie 15 miles north of the site at Hinckley Reservoir (Ref. 4).

The Phase II effort included installation of 5 monitoring wells and one soil boring. All wells monitor groundwater in the recent fluvial deposits. Subsurface soil and groundwater samples were collected from each monitoring well location. In addition, one surface waste sample and one surface water sample were taken at the site. Subsurface soil samples and the surface water sample were analyzed for Target Compound List (TCL) organics, Target Analyte List (TAL) metals, and cyanide. Groundwater samples were analyzed for volatiles, semivolatiles, and cyanide only. The waste sample was analyzed for hazardous waste characteristics.

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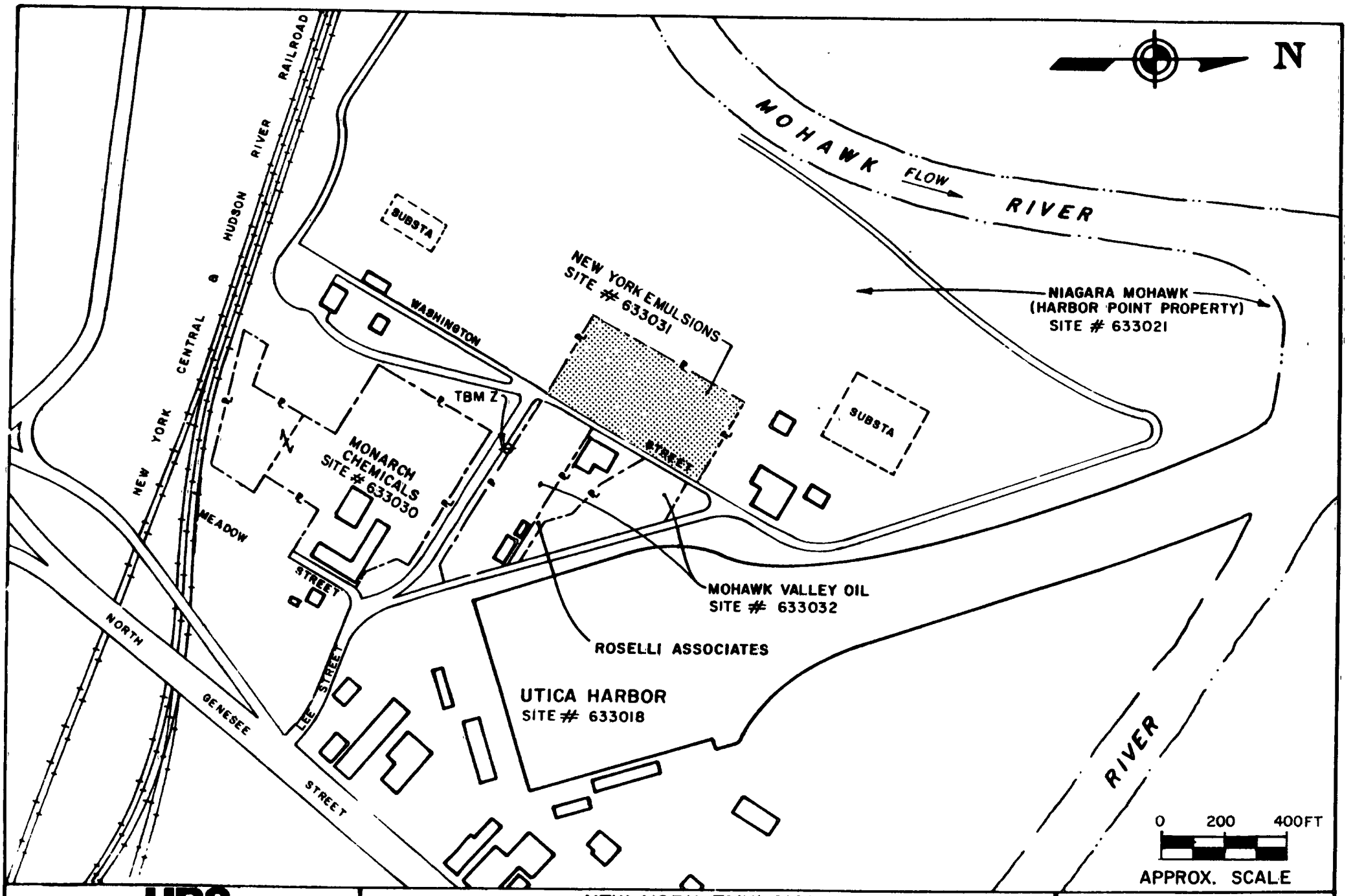


URS CONSULTANTS, INC.

NEW YORK EMULSIONS
SITE VICINITY PLAN

FIGURE 1-3

Results of subsurface soil analyses indicate a significant concentration of PAHs and benzene-toluene-ethylbenzene-xylene (BTEX) compounds, and lesser levels of pesticides, PCBs, metals, and cyanide. Soil contamination is considered attributable to the site and represents a major contribution to groundwater contamination at the site. Analytical results reveal significant levels of PAHs, BTEX compounds, and phenolic compounds, and lesser levels of cyanide in groundwater samples. This is considered at least partially attributable to the site. Surface water in the form of a sump pit discharge is contaminated with low levels of PAHs and BTEX compounds. The surface waste sample exhibited no hazardous waste characteristics by the criteria tested.

The following Hazardous Ranking System (HRS) Scores were calculated using the information generated by the Phase II Investigation of this site:

$S_M = 6.39$ ($S_{GW} = 3.06$, $S_{SW} = 11.63$, $S_A = 0.00$)
$S_{FE} = 0.00$
$S_{DC} = 62.50$

Based on the analytical results and physical condition of the site, we strongly recommend that another HRS score be calculated using the revised criteria adopted by the Environmental Protection Agency (EPA). The revised HRS will more accurately assess the potential threat associated with human health (direct dermal exposure) and the environment (nearby wildlife reserves).

Whether this site is rescored or not, it should be delisted. This recommendation is made on the basis of lack of documentation of disposal of hazardous waste, as well as upon absence of contaminants listed in 6NYCRR Part 371 or exhibiting hazardous waste characteristics according to Part 371 criteria.

2. PURPOSE

The objectives of this Phase II Investigation are:

- To collect and present accurate and defensible information regarding the environmental and health related significance of the site.
- To document the disposal of hazardous waste as defined by 6 NYCRR Part 371.
- To evaluate the existing conditions and immediate concerns at the site regarding past hazardous waste disposal practices.
- To evaluate the potential impacts imposed by the site on the air, soils, sediments, surface water, and groundwater at or near the site.
- To determine the need for further action at the site and assign an appropriate classification to the site.

The data compiled during this study have been employed to develop a final HRS score and to make recommendations regarding future action at the site.

3. SCOPE OF WORK

3.1 Introduction

The site-specific tasks performed for the Phase II Investigation include:

- o Records search
- o Site reconnaissance/site inspection
- o Geophysical survey
- o Soil borings, collection of soil samples, installation of monitoring wells
- o Air monitoring during onsite activities
- o Environmental sampling of subsurface soils, groundwater, surface water, and drilling water
- o Site survey and mapping
- o Site contamination assessment
- o Calculation of Hazard Ranking System (HRS) score
- o Report preparation

The site-specific tasks are described below. Field activities were supervised by a URS Geologist and conducted in accordance with the project Work Plan (Ref. 7), Quality Assurance Project Plan (Ref. 8), and the Health and Safety Plan (Ref. 9). These plans were approved by NYSDEC.

3.2 Records Search

A records search was performed to update and expand data presented in a previous Phase I Investigation performed by URS Consultants, Inc. in February 1990 under contract to NYSDEC. The Phase II effort involved the compilation of information gathered from several sources, including, but not limited to:

- New York State Department of Environmental Conservation (NYSDEC) - Regions 6 and 9 and central (Albany) offices
- New York State Department of Health (NYSDOH) - Albany
- Oneida County Department of Health (OCDOH)
- United States Geological Survey (USGS)
- Public libraries

Field information gathered by URS Consultants, Inc., in connection with the Phase II Investigation at the adjacent Monarch Chemical, Mohawk Valley Oil, and Utica Harbor sites has been incorporated into this report. Results of the investigations completed by Calocerinos & Spina Consulting Engineers, of Syracuse, New York, at the Niagara Mohawk Harbor Point site (NYSDEC I.D. No. 633012) have also been included in this report (Ref. 2,10,11,12,13).

3.3 Site Reconnaissance/Site Inspection

A site walkover was conducted by URS Geologists Scott Swanson and Robert Kreuzer and NYSDEC Engineering Geologist William Shaw. The group walked the site and staked the locations of 5 proposed onsite monitoring wells (SC-5 through SC-9) and one soil boring (SOIL-4). The group met with Bill Fowlston (Environmental Manager) and Bert Giaziek (Superintendent) of Suit-Kote, which is the present owner of the New York Emulsions Tar Products site. These men informed the URS and NYSDEC representatives that all buildings, tanks, and lagoon pit have been removed from the site and that the site had been filled and graded level. The site is a rectangular, essentially flat, gravel-covered parcel bounded by a chain link fence on three sides. The eastern property line parallels an access road (Washington Street), which separates the site from the Mohawk Valley Oil (Site # 633032) site and the Roselli Associates Property (Figure 1-2).

During the site walkover, air monitoring was conducted continuously across the site using an HNu Photoionization Detector (PID). No readings above background level were recorded. Tarry substances were observed pooled on the ground surface at several locations across the site.

3.4 Geophysical Survey

Two subsurface geophysical surveys, utilizing EM-31 and magnetometry methods, were conducted at the New York Emulsions Tar Products site by Weston Geophysical Corporation, of Westboro, Massachusetts. The purpose of the surveys was to locate buried utilities or other subsurface obstructions. Survey results were used to finalize the boring and monitoring well locations so as to minimize potential drilling hazards.

Magnetometer and conductivity readings were obtained at two-foot intervals along a 20 x 20 foot survey grid centered around the proposed monitoring well and soil boring locations. Metal objects buried in the subsurface, which cause fluctuations in the earth's magnetic field, are detectable by the magnetometer survey. The EM-31 survey measures electrical conductivity of soil, water, or buried materials. Metal objects or buried fill materials cause anomalies in background conductivity readings. An assessment of subsurface conditions may be made by interpretation of these data. Results of the survey suggested the need to relocate monitoring well SC-8 four feet to the northeast from the originally proposed location. Relocation was proposed due to uncertain subsurface conditions inferred from terrain conductivity anomalies at the original location. Results of the geophysical survey are presented in Appendix A.

3.5 Soil Borings/Monitoring Well Installations

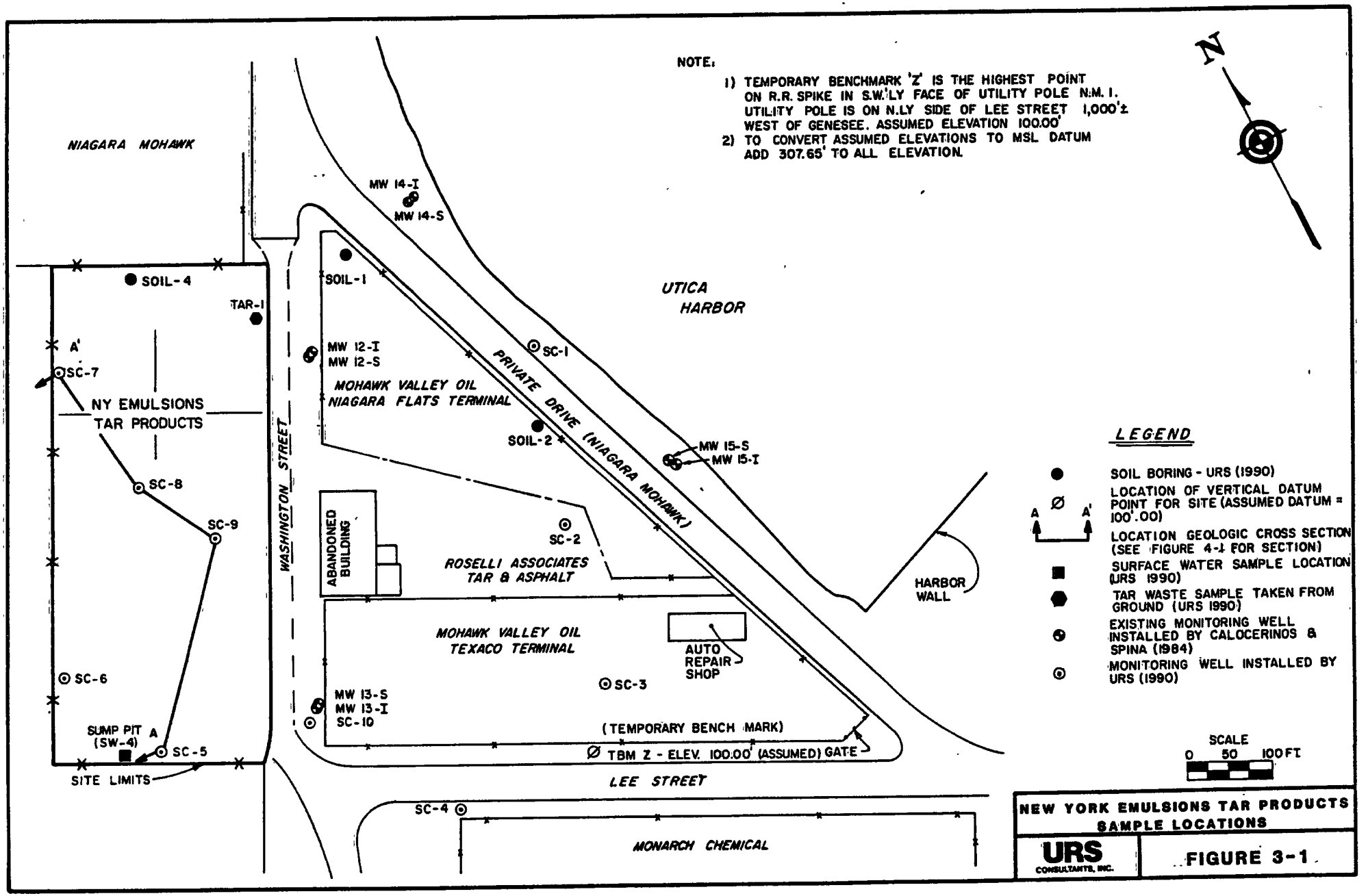
The locations of 5 monitoring wells (SC-5 through SC-9), and one soil boring (SOIL-4) installed at the site during the present

investigation are shown on Figure 3-1. Field work commenced on August 20, 1990, and was completed on August 21, 1990. Drilling operations were performed by American Auger and Ditching Co., of West Monroe, New York, using a truck-mounted Mobile B-57 drill rig.

Monitoring wells and soil borings were advanced and constructed in accordance with NYSDEC guidelines. Procedures for drilling in overburden followed specifications as detailed in the NYSDEC Technical/ Administrative Guidance Memorandum, Guidelines for Exploratory Boring, Monitoring Wells Installation, and Documentation of these Activities (Ref. 14).

Prior to drilling at each boring/well location, the drill rig and equipment were steam-cleaned. As work progressed, downhole tools were cleaned according to NYSDEC-approved protocols and then placed on pallets to minimize the potential for cross-contamination.

Well borings and soil borings were advanced to completion depth using 4-1/4-inch hollow-stem augers. Split-barrel samples were taken continuously to accurately define the subsurface soil characteristics and to identify the depth to groundwater. All samples were taken in advance of the augers, following American Society of Testing Materials (ASTM) 1586-84. The URS supervising geologist provided field descriptions and material classifications in accordance with ASTM D2488-84 as samples were obtained. In addition, all retrieved samples were inspected for visual signs of contamination and screened with a PID for the presence of organic vapors. Seven (7) subsurface soil samples were selected for geotechnical analysis. Six (6) additional subsurface soil samples were collected (one per well boring/soil boring) for chemical analysis (Section 3.6.1). Appendix B presents the subsurface soil boring logs and Appendix C presents the results of geotechnical testing.



NEW YORK EMULSIONS TAR PRODUCTS
SAMPLE LOCATIONS

URS CONSULTANTS, INC.

FIGURE 3-1

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Five (5) monitoring wells and one soil boring were installed at the site in accordance with the NYSDEC Work Plan (Ref. 7). All 5 URS wells monitor the water table aquifer. Table 3-1 shows the monitoring well descriptions. Each well was placed so as to further define the nature of contamination and to assess potential contributions from adjacent sites (i.e., Mohawk Valley Oil, Monarch Chemical Co., and the Harbor Point). The location and rationale for placement of these wells is outlined below:

- o SC-5 - Assesses overall impacts on areas to the south and southwest and isolates the potential contributions from any outside source.
- o SC-6 - Assesses overall impact on areas to the west and isolates the potential contributions from any outside source.
- o SC-7 - Assesses the overall impacts on areas to the north and northwest and isolates the potential contributions from any outside source.
- o SC-8 - Assesses the mounding effect of groundwater within the New York Emulsions Tar parcel.
- o SC-9 - Isolates contributions from the Mohawk Valley Oil and New York Emulsions Tar Products sites.

All URS wells were constructed of 2-inch ID schedule 40 PVC threaded flush-joint riser pipe, and 10-foot lengths of 0.010-inch machine-slotted PVC well screen. Following the placement of well materials within the augers, quartz sand was placed below and around the well screen to approximately 2 feet above the top of the screen as the augers were incrementally removed. The screened intervals were then sealed with a bentonite pellet seal approximately 2 feet thick. Cement/bentonite grout

TABLE 3-1

MONITORING WELL DESCRIPTIONS

Well No.	Well Boring Depth (ft.)	Location	Unit Screened	Screened Interval (ft.)
SC-5	15.5	South end of site	Water table aquifer - fill/silty clay	5-15
SC-6	15.5	Southwest corner of site	Water table aquifer - fill/silty clay	5-15
SC-7	15.5	Northwest corner of site	Water table aquifer - fill/silty clay	5-15
SC-8	16	Central area of site	Water table aquifer - fill/silty clay	5-15
SC-9	16	Central area of site	Water table aquifer - sandy fill/silty clay	5.5-15.5

was poured above the bentonite seal up to the ground surface. The well riser was fitted with a vented PVC cap, and the well was then secured with a 5-foot length of 4-inch ID steel protective casing and equipped with a lockable cap. Well construction details are provided in Appendix D.

Soil boring SOIL-4 was advanced to 10 feet below ground surface. Following completion of the boring and sampling, cement/bentonite grout was tremied through the augers to seal the borehole.

3.6 Monitoring Well Development

No sooner than 24 hours after completing the monitoring well, the wells were developed to remove residual sediments and well construction materials introduced during the drilling process. Monitoring wells were developed using a suction lift pump and dedicated polyethylene tubing until the discharge achieved visual clarity, turbidity was less than 50 NTU, and temperature/pH/conductivity measurements had stabilized. Additionally, a pre-cleaned stainless-steel bailer with dedicated nylon rope was used to purge the well and further develop the sand pack. Well development logs indicating volume extracted, parameter measurements, pumping data, and recharge characteristics are provided in Appendix E.

Water levels were generally measured daily as wells were completed throughout the drilling program. An existing permanent staff gauge operated by NYSDOT in the Utica Harbor was also monitored. In addition, a complete set of water level readings including adjacent sites was collected on January 7, 1991. This allowed determination of shallow groundwater flow in the vicinity of the New York Emulsions Tar Products site.

3.7 Environmental Sampling and Analysis

Analytical samples included subsurface soils, groundwater, surface water, and surface waste. The samples were placed in pre-cleaned glass jars with teflon-lined screw-caps. Each sample jar was labeled with a site-specific sample identification code indicating the sample location and number. Samples were preserved on ice and shipped under chain-of-custody control to Versar Laboratories, Inc., of Springfield, Virginia. The NYSDEC Analytical Services Protocol (ASP) dated September 1989 was utilized for analysis and reporting (Ref. 15). Appendix G presents the analytical data summary.

3.7.1 Subsurface Soil Sampling and Analysis

One subsurface soil sample was collected from each of the 5 well borings and from the one soil boring. The split-barrel sampler was steam-cleaned prior to sampling. Soil samples were selected on the basis of visual signs of contamination and HNu readings. Table 3-2 summarizes the soil sampling. Appendix F presents descriptions of the soil samples.

Each soil sample was analyzed for Target Compound List (TCL) volatiles, semivolatiles, pesticides/PCBs, and cyanide, as well as Target Analyte List (TAL) metals. Analytical results for these samples are presented in Section 4.5.2. Sample descriptions are presented in Appendix F.

3.7.2 Groundwater Sampling and Analysis

Groundwater samples were collected from the 5 URS monitoring wells on October 3, 1990. In addition, one field blank was collected by rinsing a decontaminated stainless-steel bailer which had been used for well sampling. These water samples were analyzed for TCL volatiles, semi-volatiles, and cyanide. One trip blank was also analyzed for TCL

TABLE 3-2

SUBSURFACE SOIL SAMPLING SUMMARY

Well Boring/Soil Boring	Sampling Depth (ft.)	HNu Response (ppm)
SC-5	2-4	17
SC-6	3-5	15
SC-7	6-8	2
SC-8	8-10	6.5
SC-9	2-4	63
SOIL-4	1.5 - 3.5	3

volatiles as specified in the Quality Assurance/Quality Control Plan. A drill water sample was also tested for TCL organics, TAL metals, and cyanide. Results of this drill water sample analysis were used for both the New York Emulsions and Mohawk Valley Oil sites since the same drill water source was used for both sites. Results of these analyses are summarized in Section 4.5.3. Sample descriptions are presented in Appendix F.

Prior to groundwater sampling from each well, the water level was recorded and at least 3 well volumes were purged with a stainless- steel bailer and dedicated nylon rope. The bailer was initially decontaminated by successively rinsing with a non-phosphate soap and water wash, tap-water, pesticide-grade methanol, and distilled water. All sample bottles were filled by using the same stainless-steel bailer, which was decontaminated between well sampling events.

3.7.3 Surface Water Sampling and Analysis

One surface water sample (SW-4) was collected on October 4, 1990, from the sump pit located near the south end of the site (Figure 3-1). It was originally intended to obtain the sample from a lagoon near the southwest corner of the site, but the lagoon had been filled and subsequently covered. The sample was analyzed for TCL volatiles, semivolatiles, pesticide/PCBs, TAL metals, and cyanide. Results of these analyses are presented in Section 4.5.4. A sample description is given in Appendix F.

3.7.4 Surface Waste Sampling and Analysis

One waste sample (TAR-1) was collected from the north end of the New York Emulsions Tar Products property. The sample was gathered from one of the many surface tar pools in the area and was deemed to be representative of waste tars at the site (Figure 3-1).

The sample was analyzed for RCRA hazardous waste characteristics. NYSDEC Test Methods for Evaluating Solid Waste, (SW-846, November 1986, Third Edition), was utilized for analysis and reporting (Ref. 16). Analytical results are presented in Section 4.5.5. A sample description is given in Appendix F.

3.8 Air Monitoring

Air monitoring was performed with an HNu PID throughout the drilling and sampling programs. The HNu was calibrated daily with an isobutylene standard, and all results were recorded. Air in the breathing zone (generally 4 to 5 feet above ground) was monitored during both drilling and sampling activities. All responses of the HNu above background are recorded on the soil boring logs. In addition, headspace in each well was monitored during drilling prior to most water level measurements and prior to groundwater sampling. A summary of these results is presented in Section 4.6.

Explosive atmosphere/oxygen content was measured with an explosimeter throughout the drilling program. The explosimeter was calibrated daily with a methane standard, and the background atmosphere and results were recorded in the field notebook. Monitoring took place around and within the borehole to ensure safe working conditions. Action levels were not exceeded at any time during drilling, and all readings were recorded.

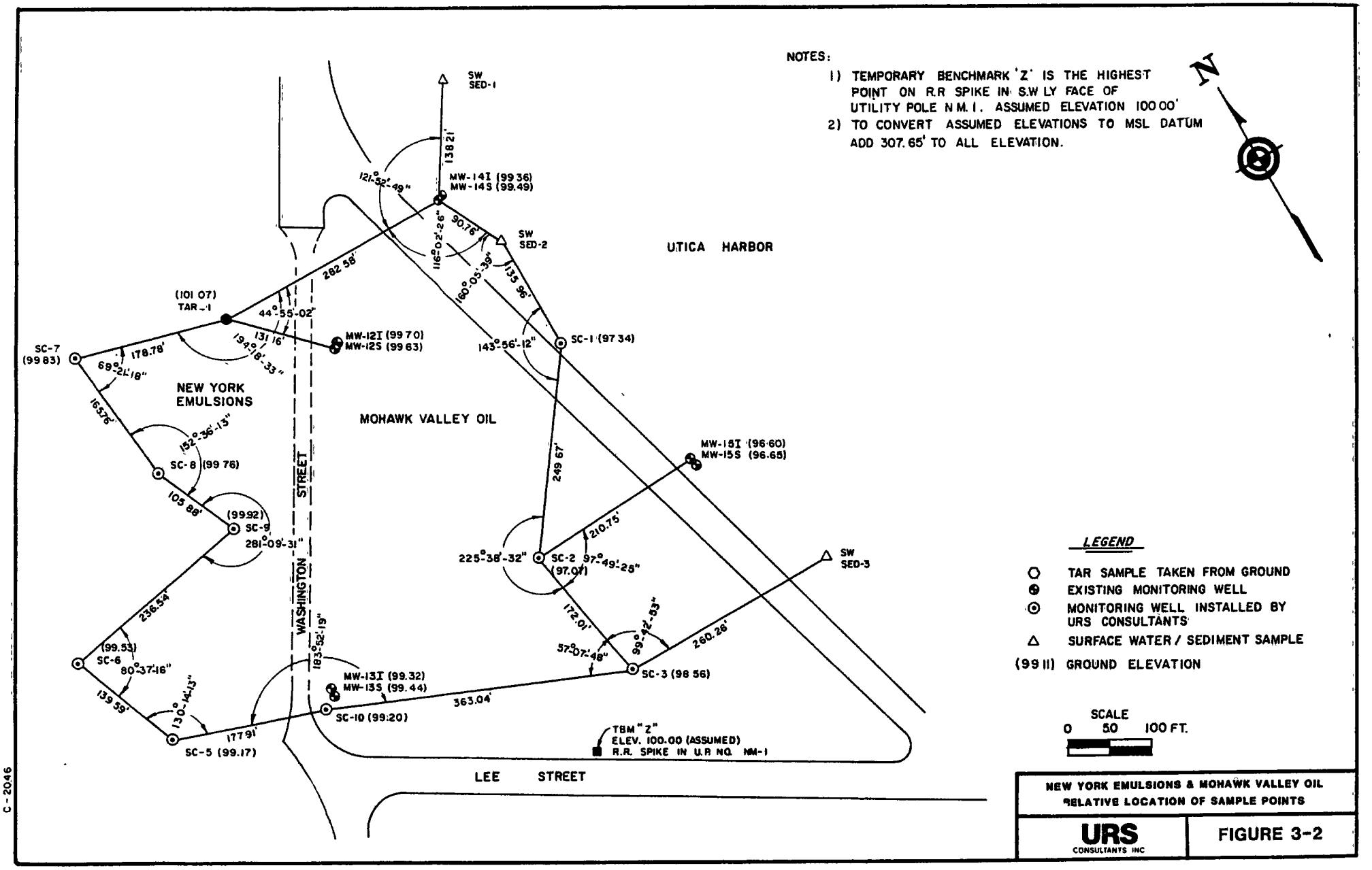
3.9 Surveying and Mapping

Following the completion of the Phase II monitoring well installation and field sampling programs, the wells and sampling points were surveyed for horizontal and vertical location. These data were then used for the preparation of the site maps and to assist with data interpretation.

The horizontal datum was local and site-specific. The vertical datum originally used by URS Consultants, Inc. in their field investigation was based upon an assumed elevation (100.00 feet) on a railroad spike set for a Temporary Bench Mark (TBM) in the southwesterly face of a utility pole (NM 1), on the north side of Lee Street 1,000± feet west of its intersection with Genesee Street. At the suggestion of NYSDEC, URS Consultants, Inc. used elevations previously established on the ground and the casing of monitoring well locations MW-12, MW-14, and MW-15 to develop an equation to convert URS assumed elevations to Mean Sea Level Elevation (MSL). URS assumed elevations can be converted to MSL by adding 307.65 to all URS values.

All surveying was done under the supervision of a New York-licensed Land Surveyor. A site map was prepared using the Phase I site sketch as a basis. Obvious defects were corrected and important additional topographic features were added as necessary. Wells and sample points were plotted to an appropriate scale using the survey data.

The relative vertical and horizontal locations of the monitoring wells and sampling points are presented in Figure 3-2. The sketch shows the local datum surface elevation for each point and the distance between locations.



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NEW YORK EMULSIONS & MOHAWK VALLEY OIL
RELATIVE LOCATION OF SAMPLE POINTS

URS CONSULTANTS INC

FIGURE 3-2

4. SITE ASSESSMENT

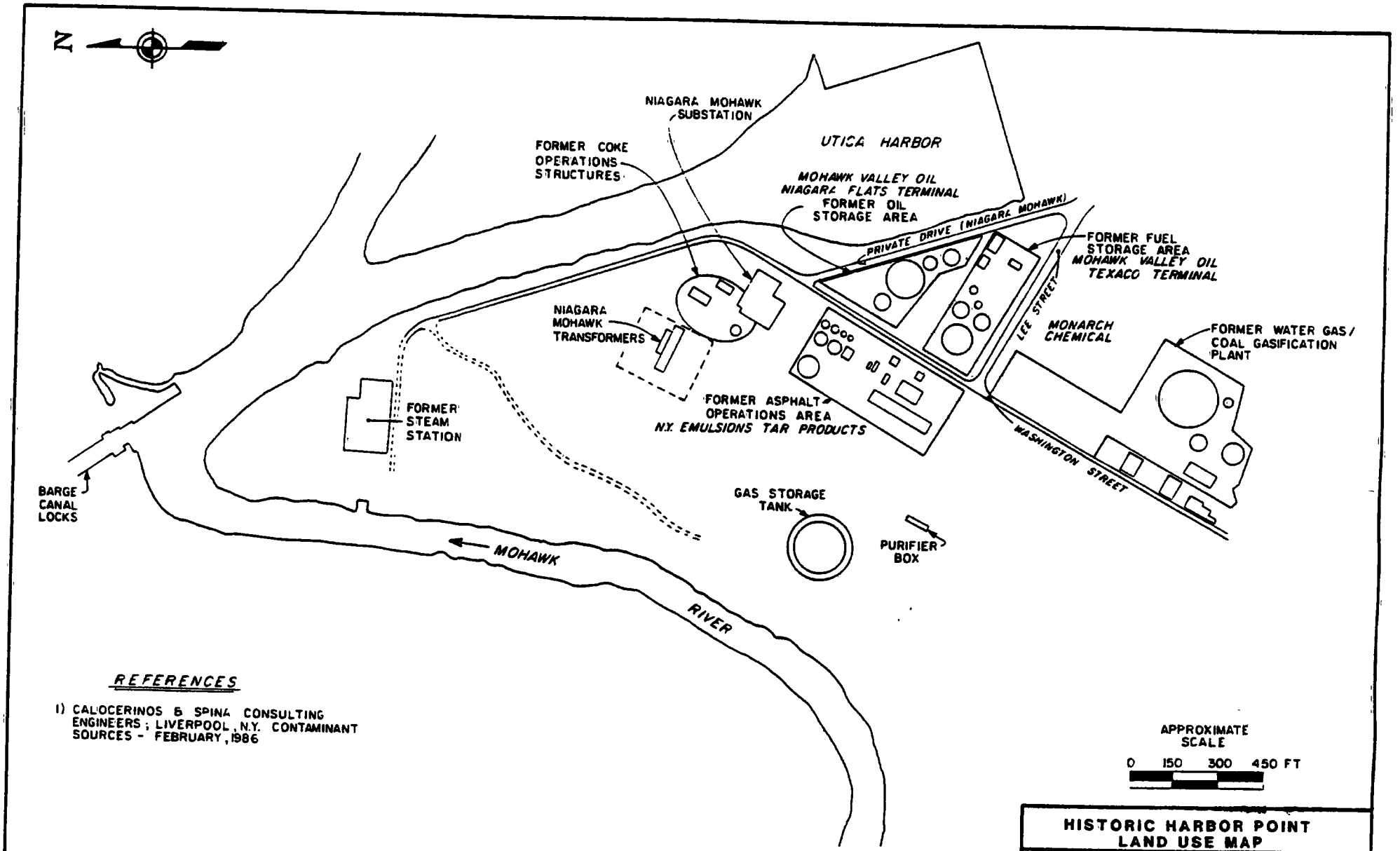
4.1 Site History

The New York Emulsions Tar Products site is located on a peninsula known as Harbor Point in the northern part of the City of Utica, Oneida County, New York (Figure 1-1). Harbor Point is bounded on the north and west by the Mohawk River and on the east by Utica Harbor (Figure 1-2). The New York Emulsions Tar Products site is situated on the southeastern portion of Harbor Point.

Four additional sites at which hazardous waste studies have been conducted or are ongoing are located within 1,000 feet of the New York Emulsions Tar Products site. These are: Niagara Mohawk's Harbor Point property (64 acres, Site #633012), the Mohawk Valley Oil site (3.71 acres, Site #633032), the Monarch Chemical site (7.56 acres, Site #633030), and the Utica Harbor (29.2 acres, Site #633018).

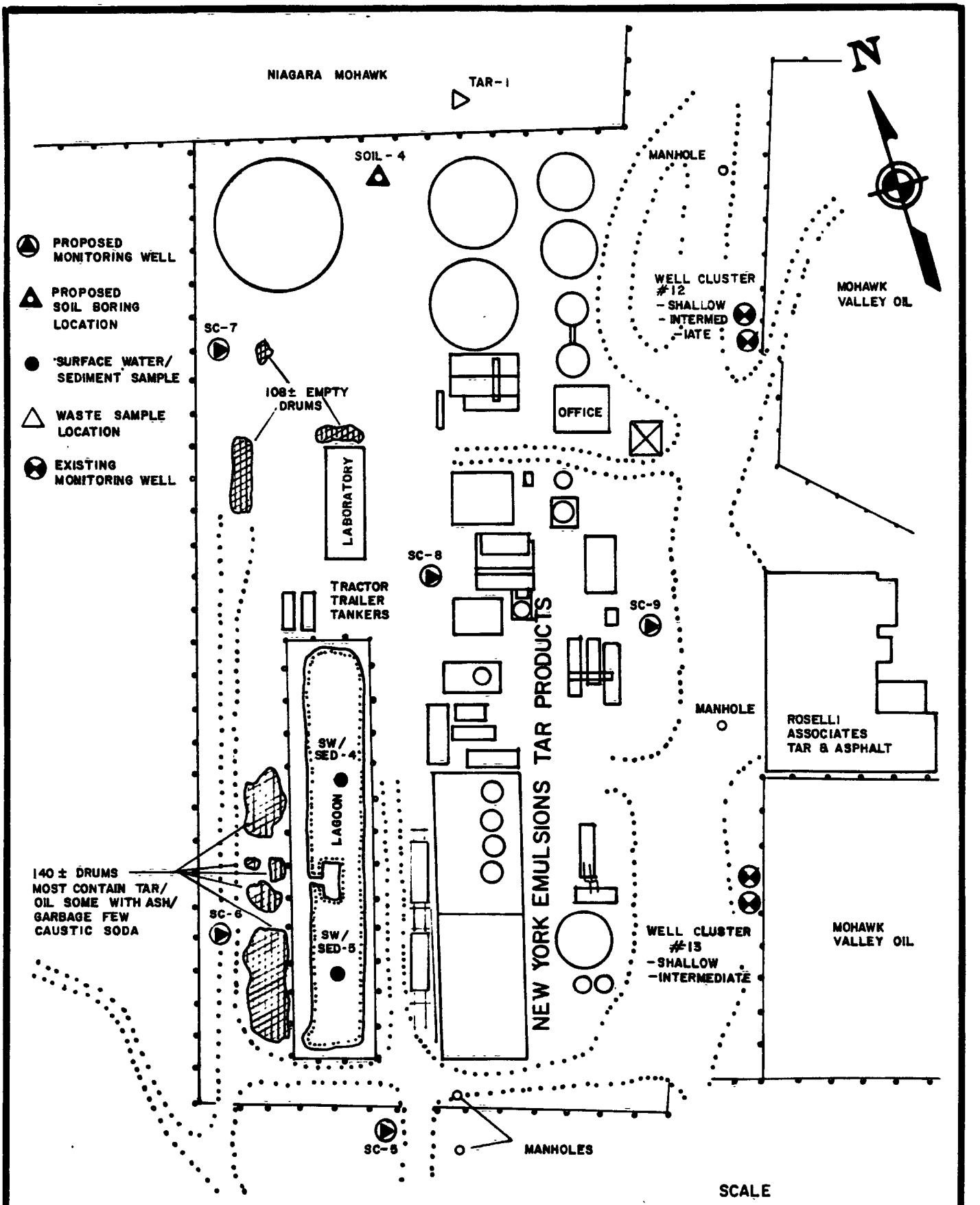
The Harbor Point area has a long history of industrial activity, and some industrial activity continuing today. A water gas/coal gasification plant operated here from 1902 to the 1950's; the Mohawk Valley Oil site was a fuel storage tank farm; the Monarch Chemical Company site is an active distribution and manufacturing plant producing sodium hydroxide and sodium hypochlorite (Ref. 18). Utica Harbor may be adversely affected by a sewer network which discharges to the harbor from the sites identified above, and is considered a hazardous waste site in its own right. Figure 4-1 shows the locations of the past and present industrial areas of the Harbor Point property.

The 2.96-acre New York Emulsions Tar Products site was acquired by Utica Gas and Electric (UGE) from the Davies family, as part of a larger land transaction, in 1923. Prior to 1923, the land was used for farming. In 1926, UGE sold the property to the American Tar Products company which


N
NIAGARA MOHAWK SUBSTATION
UTICA HARBOR
FORMER COKE OPERATIONS STRUCTURES
MOHAWK VALLEY OIL NIAGARA FLATS TERMINAL FORMER OIL STORAGE AREA
PRIVATE DRIVE (NIAGARA MOHAWK)
FORMER FUEL STORAGE AREA MOHAWK VALLEY OIL TEXACO TERMINAL
LEE STREET
MONARCH CHEMICAL
FORMER WATER GAS / COAL GASIFICATION PLANT
NIAGARA MOHAWK TRANSFORMERS
FORMER ASPHALT OPERATIONS AREA N.Y. EMULSIONS TAR PRODUCTS
FORMER STEAM STATION
WASHINGTON STREET
BARGE CANAL LOCKS
GAS STORAGE TANK
PURIFIER BOX
MOHAWK RIVER
REFERENCES
1) CALOCERINOS & SPINA CONSULTING ENGINEERS; LIVERPOOL, N.Y. CONTAMINANT SOURCES - FEBRUARY, 1986
APPROXIMATE SCALE
0 150 300 450 FT
HISTORIC HARBOR POINT LAND USE MAP
URS CONSULTANTS INC
FIGURE 4-1

later became Koppers Products Company. Utilizing the coal-tar residue from the adjacent Harbor Point coal gas production plant, Koppers began the processing of road tar, pitches and creosote oils on site. In later years, asphalt emulsion was also produced at the site. Koppers reportedly used an area just west of its property to clean road tar from its vehicles, and to dump tarry residues (Ref. 4). In March 1977, Koppers sold the property and inventory to Suit-Kote Corporation, of Cortland, New York. Inventory at the time of the sale included road tar, asphalt, and naptha solvents. Suit-Kote operated the plant for several years to manufacture emulsified asphalt. Suit-Kote allegedly never processed road tar (a product of the destructive distillation of wood or coal) and confined its operations to production of asphalt emulsion (a petroleum based product) only. Suit-Kote ceased operations in 1983 and alleges it sold all the road tar products it had acquired with the purchase of the site. The naphtha inventory was reportedly depleted by Suit-Kote in the production of asphalt emulsion (Ref. 4). Suit-Kote alleges that no spills or accidents occurred during its ownership of the site. In addition, there is no documentation of hazardous waste disposal at the site.

At present, the site is vacant and all former structures (tanks and associated asbestos insulation, buildings, drums, and electrical transformers) were dismantled by 1988 and the onsite lagoon has since been filled. Figure 4-2 shows the facility layout prior to its demolition and removal. Suit-Kote began dismantling the plant and cleaning up the site in November, 1987 (Ref. 23). At least 25 roll offs loaded with tar-filled 55-gallon drums were transported to Suit-Kotes' Cortland location, where they used the material (Ref. 23). In March, 1988, Suit-Kote contracted ACEM for the removal of the onsite electrical transformers. The contents were drained and transported from the site. The tanks were cleaned and sent to scrap (Ref. 23). In May, 1988, Suit-Kote contracted ACEM for the asbestos abatement at the site. Environmental Protection Services were subcontracted for the asbestos removal which began in June, 1988. The asbestos insulating frame work from around each tank was removed. In



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FORMER PLANT PLAN ID #633031
NEW YORK EMULSIONS TAR PRODUCTS

FIGURE 4-2

October, 1988, the onsite buildings were being demolished (Ref. 24). Jordan Recycling of Liverpool, New York began cutting the tanks with torches in March 1990. During their work, two separate fires broke out and were associated with green and orange smoke accompanied with noxious fumes which hampered fire fighting efforts. After the second fire, Jordan Recycling employed an alternate method for cutting the tanks (Ref. 25). The site has since been graded with clean sand and gravel fill.

4.2 Regional Setting

4.2.1 Geography

Harbor Point, a peninsula bordered by the Mohawk River and Utica Harbor, is relatively flat. The Harbor Point property has a long history of industrial activity, most of the 64-acre area having been disturbed (Ref. 4). The Harbor Point peninsula lies about 10 feet above the Mohawk River/Utica Harbor water elevation. The Mohawk River and Utica Harbor are Class C water bodies (Ref. 18). Seven protected freshwater wetlands are found within one mile of the site. The Utica Marsh Wildlife Management Area covers parts of three of these freshwater wetlands and could be considered a reserve by NYSDEC (Ref. 4).

Approximately 120 groundwater wells serving 456 people occur within a three-mile radius of the site, 20 in the Town of Deerfield and 100 in the Town of Marcy. Although these wells draw potable water from the aquifer of concern, they are located upgradient of the site, across the Mohawk River. Potable water is supplied through the remainder of the area by the Utica Board of Water Supply, whose intakes lie 15 miles north of the site, at Hinckley Reservoir (Ref. 4).

4.2.2 Geology

The New York Emulsions Tar Products site is located within the Hudson-Mohawk Lowlands physiographic province of New York State (Ref. 19). The Mohawk River Valley near the site is underlain by the Utica Shale formation, of Ordovician age. Depth to the Utica Shale beneath the site is estimated at 85 feet (Ref. 2). These sedimentary rocks dip gently to the south (Ref. 20). The Utica Shale is a black, finely laminated marine shale with scattered concentrations of pyrite. Groundwater within this unit typically occurs along bedding planes and within fractures and joints. Dissolution of pyrite and pyritic nodules contributes a natural component of hydrogen sulfide to the formation water (Ref. 17).

Pleistocene glaciation eroded the Mohawk Valley Trough beneath the present-day valley floor. The trough was subsequently buried with a sequence of glacial till, outwash, and lake sediments. Recent floodplain sediments of the Mohawk River cap the glacial deposits. The entire valley fill sequence is saturated. Regional groundwater flow is generally toward the valley axis (north-northeast) with only a slight down-valley flow component (east) (Ref. 17).

4.3 Site Setting

The site is relatively flat and lies less than ten feet above the Utica Harbor - Mohawk River System. The New York Emulsion Tar Products site lies in the 100-year floodplain (Ref. 27). At present, no tanks or other structures are found on site. The surface consists of well graded gravels and sands. Numerous tar pools were observed scattered across the parcel. Most of the perimeter of the parcel is fenced. The easternmost property line, however, remains unfenced.

4.4 Site Hydrogeology

4.4.1 Site Geology

Two subsurface units were delineated from borings advanced as part of this Phase II Investigation. These units are described below:

- o FILL - Generally, black and brown, loose to medium dense, moist to wet silty sand/sandy silt mixed with gravel, construction and demolition debris, brick fragments, oily sludge, and tar. Fill was encountered in all borings at thicknesses ranging from 6 to 12 feet from the ground surface.

- o SILTY CLAY - Brown and/or gray, very soft to medium stiff, moist to wet, low to medium plasticity, silty clay. Often stained by oily, tar-like sludge percolating into organic root holes. Depth below ground surface ranged from 2.5 to 10 feet.

Figure 4-3 illustrates a generalized subsurface cross-section across the New York Emulsions Tar Products site.

Subsurface soil data prepared by Calocerinos and Spina (1984) from the adjacent Harbor Point area provide a similar stratigraphic sequence. Calocerinos and Spina found that the surficial fluvial deposits are underlain sequentially by glaciofluvial sands/silts/gravels, glaciolacustrine silts and clays, lodgement till, and the Utica Shale. Depth to bedrock near the New York Emulsions Tar Products site is estimated at 85 feet and increases rapidly (to more than 200 feet) in the central portion of the Mohawk Valley Trough, approximately 0.25 miles north of the site (Ref. 2).

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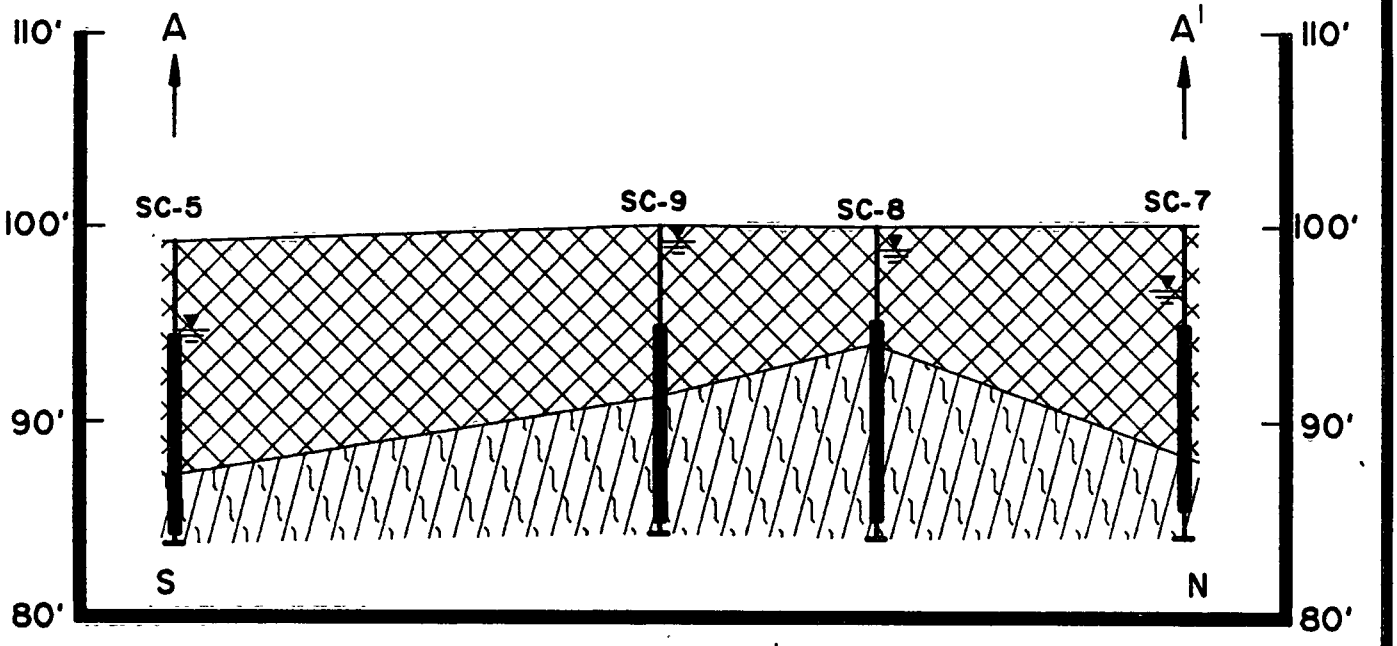

SECTION A-A'
(SEE FIGURE 3-1 FOR PLAN)

LEGEND

FILL

SILTY CLAY

SC-8 — WELL NUMBER

WATER SURFACE WITHIN WELL (8/24/90)

SCREENED INTERVAL OF WELL

BOTTOM OF BORING

NOTES:

1. GEOLOGIC CONDITIONS SHOWN ARE REPRESENTATIVE OF CONDITIONS ENCOUNTERED AT EACH BORING LOCATION TO THE DEPTH DRILLED. EXTRAPOLATIONS BETWEEN BORINGS HAVE BEEN INTERPRETED USING STANDARD ACCEPTED GEOLOGIC PRACTICES AND PRINCIPLES. ACTUAL CONDITIONS MAY VARY BETWEEN BORINGS FROM THOSE SHOWN.
2. VERTICAL DATUM BASED ON ASSUMED ELEVATION OF 100.00 FT. (SEE FIGURE 3-1 FOR LOCATION)

SCALE:
HORIZ. 1"=200'-0"
VERT. 1"=10'-0"

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URS CONSULTANTS, INC.

N.Y. EMULSIONS TAR PRODUCTS
GEOLOGIC CROSS SECTION

FIGURE 4-3

4.4.2 Groundwater Hydrology

Five (5) monitoring wells were installed during the Phase II investigation to assess groundwater quality and to determine groundwater flow direction. Refer to Figure 3-1 for the well locations. Table 4-1 summarizes all water level data gathered during the field investigations.

Groundwater at the site was encountered within 5 feet of ground surface. At all locations, the water table lay within the surface fill zone. Hydrogeologic investigation of the Harbor Point area has suggested a hydraulic connection between the shallow, intermediate, and deep valley fill sediments and the bedrock aquifer (Refs. 2, 4). Therefore, the shallow water-bearing zone delineated in this investigation is considered to be hydraulically connected to the deeper overburden and bedrock aquifer. As a result, the entire sequence is treated as the aquifer of concern for the purpose of HRS scoring.

Depth to groundwater ranges from 1 foot to nearly 5 feet below ground surface. In general, groundwater flow within the surficial sediments is to the east-northeast (toward Utica Harbor) in the vicinity of the New York Emulsions Tar Products site. Figure 4-4 illustrates apparent shallow groundwater flow across the New York Emulsions Tar Products and Mohawk Valley Oil sites on August 24, 1990. A groundwater high shown near SC-9 on the New York Emulsions Tar Products site indicates probable radial flow to the north, east, and south. Although concurrent groundwater data was not available immediately west of the site on 8/24/90, it appears that this area is downgradient and is consistent with the radial flow observation. Shallow groundwater flow on 1/4/85 interpreted by Calocerinos & Spina (Ref. 2) indicated a groundwater mound centered around the Niagara Mohawk substation (north-northwest of New York Emulsions Tar Products). The groundwater map Calocerinos & Spina produced shows that the adjacent area west of the northern half of the New York Emulsions Tar Products parcel was upgradient, while the adjacent area west

TABLE 4-1

NEW YORK EMULSIONS TAR PRODUCTS - WATER ELEVATION DATA

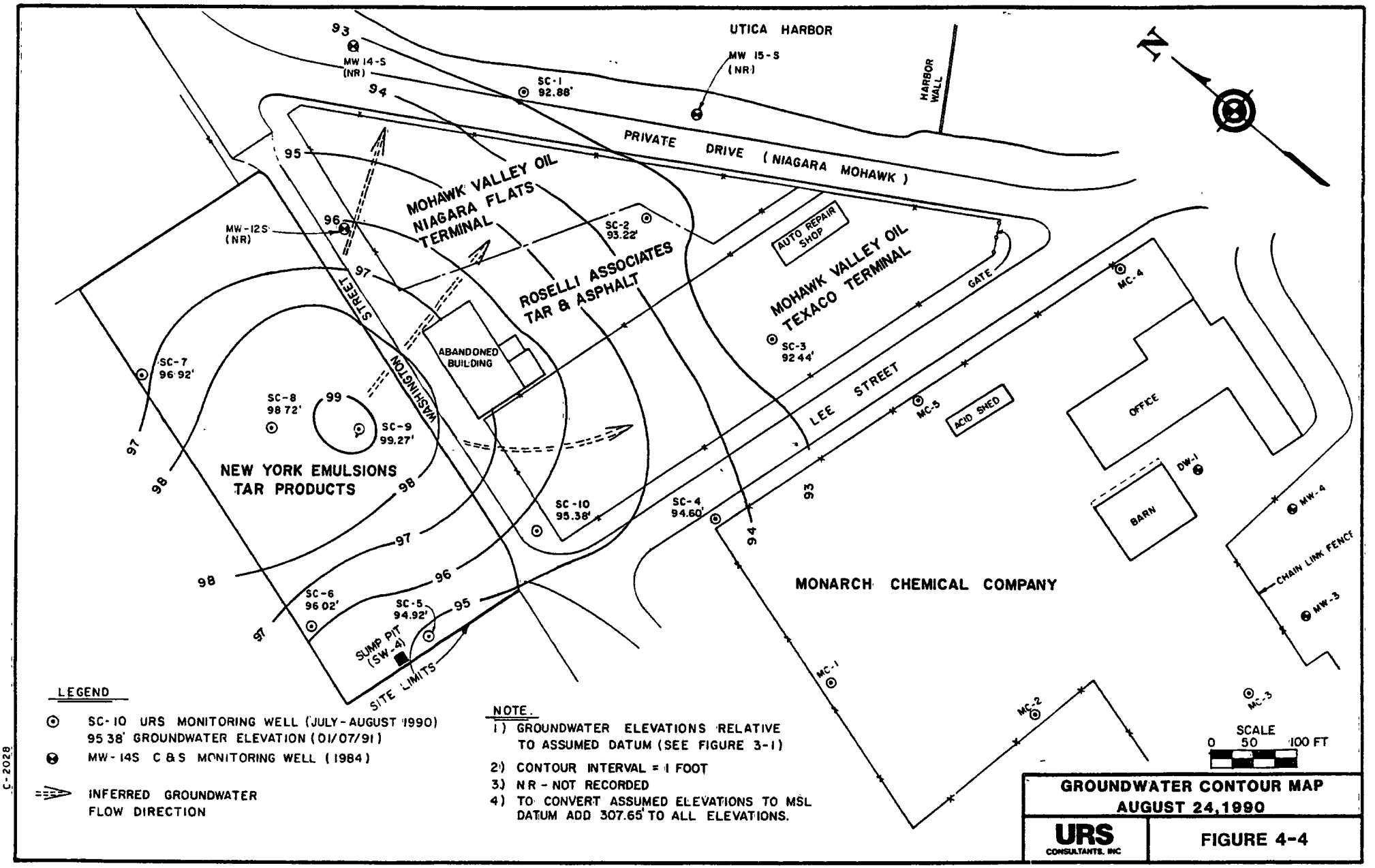
Monitoring Well	SC-5	SC-6	SC-7	SC-8	SC-9	HARBOR
Riser elevation (ft)	102.27	102.44	102.67	102.70	102.89	-
Ground elevation (ft)	99.17	99.53	99.83	99.76	99.92	-
* Riser height (ft)	3.10	2.91	2.84	2.94	2.97	-
8/21/90	96.06	95.00	96.92	. .	. .	. .
8/22/90	94.94	96.05	97.03	98.72	99.37	. .
8/24/90	94.92	96.02	96.92	98.72	99.27	. .
9/11/90	95.02	96.29	97.05	98.77	99.27	. .
10/02/90	97.06	96.72	96.54	98.81	99.40	. .
01/07/91	97.71	98.10	97.49	98.98	. .	90.34

Monitoring Well	MW-12S	MW-14S	MW-15S
Ground elevation (ft)	99.63	99.41	96.68
01/07/91	94.65	93.73	91.53

All elevations relative to temporary benchmark established for site (see Figure 3-1)

. . Indicates that no data were obtained on the date indicated

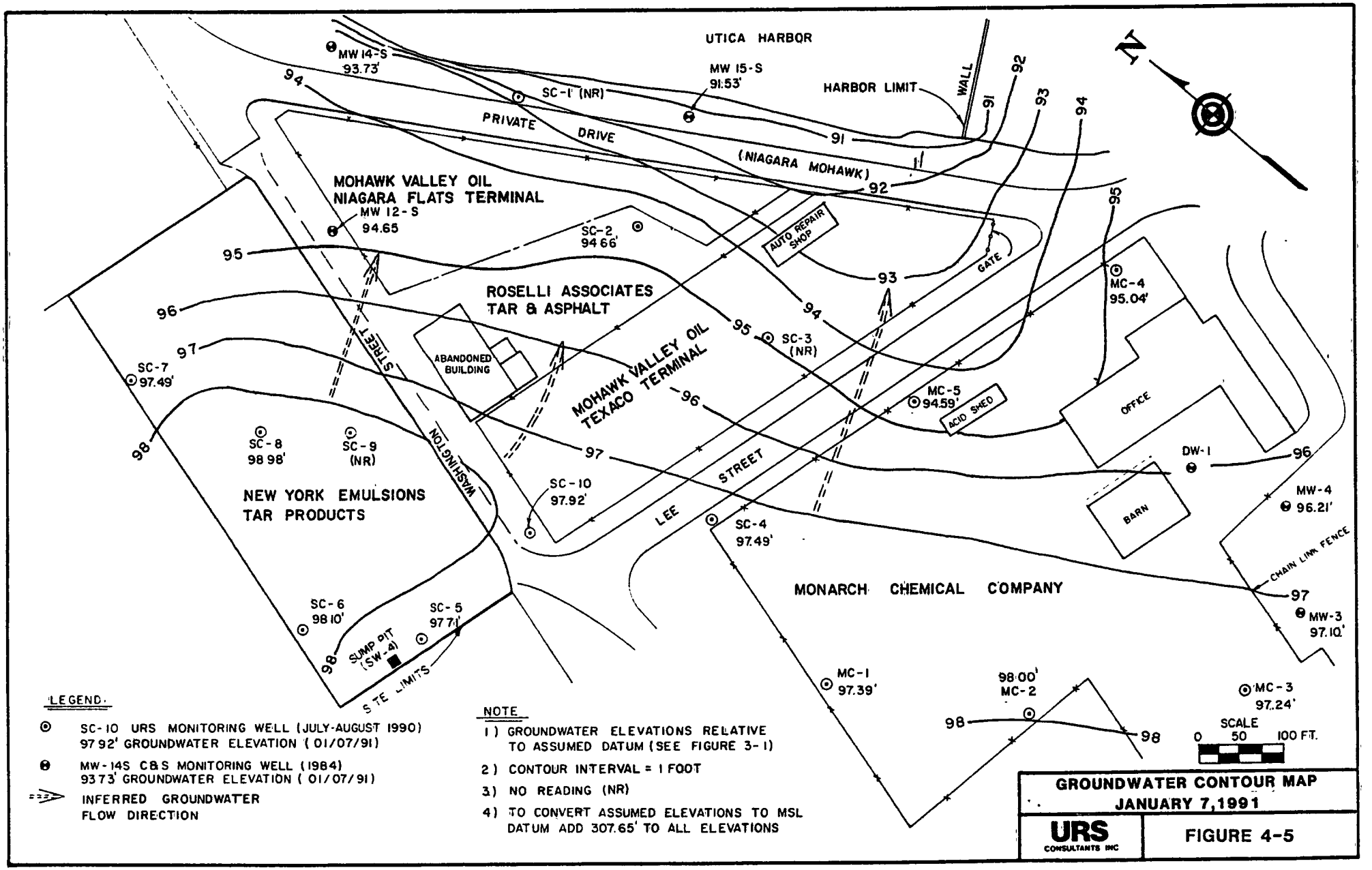
* Riser height referenced above ground surface


UTICA HARBOR
MW 14-S (NR)
MW 15-S (NR)
SC-1 92.88'
HARBOR WALL
PRIVATE DRIVE (NIAGARA MOHAWK)
MOHAWK VALLEY OIL NIAGARA FLATS TERMINAL
MW-12S (NR)
SC-2 93.22'
AUTO REPAIR SHOP
ROSELLI ASSOCIATES TAR & ASPHALT
MOHAWK VALLEY OIL TEXACO TERMINAL
GATE
STREET
WASHINGTON
ABANDONED BUILDING
SC-3 92.44'
SC-7 96.92'
SC-8 98.72'
SC-9 99.27'
NEW YORK EMULSIONS TAR PRODUCTS
LEE STREET
MC-4
MC-5
ACID SHED
OFFICE
DW-1
BARN
MW-4
CHAIN LINK FENCE
MW-3
SC-10 95.38'
SC-4 94.60'
MONARCH CHEMICAL COMPANY
SC-6 96.02'
SC-5 94.92'
SUMP PIT (SW-4)
SITE LIMITS
MC-1
MC-2
MC-3
N
SCALE
0 50 100 FT
LEGEND
SC-10 URS MONITORING WELL (JULY-AUGUST 1990) 95.38' GROUNDWATER ELEVATION (01/07/91)
MW-14S C&S MONITORING WELL (1984)
INFERRED GROUNDWATER FLOW DIRECTION
NOTE:
1) GROUNDWATER ELEVATIONS RELATIVE TO ASSUMED DATUM (SEE FIGURE 3-1)
2) CONTOUR INTERVAL = 1 FOOT
3) NR - NOT RECORDED
4) TO CONVERT ASSUMED ELEVATIONS TO MSL DATUM ADD 307.65' TO ALL ELEVATIONS.
GROUNDWATER CONTOUR MAP
AUGUST 24,1990
URS CONSULTANTS, INC
FIGURE 4-4

C-2028

of the southern half of the parcel was downgradient. It is clear that shallow groundwater is mounding on the Harbor Point property, probably as a result of a combination of several factors including enhanced infiltration at the New York Emulsions Tar Products site, geometry/hydrogeology of the Harbor Point peninsula, and residual effects of a leaking municipal water line along Washington Street. Since the New York Emulsions Tar Products site is unvegetated and covered with loose sand and gravel fill, soil water infiltration is enhanced relative to surrounding areas. The high water table at location SC-8 and SC-9 also corresponds with an apparent topographic high in the underlying silty clay surface (Figure 4-2). The geometry of the Harbor Point peninsula (i.e., bounded by the Mohawk River/Utica Harbor system and three sides) is conducive to the groundwater mounding condition as well. In addition, the mounding condition at the New York Emulsions parcel may have been influenced by a leaking municipal water line along Washington Street and a leaking service line to the former Suit-Kote office building. Apparently, the lines were leaking since 1987. The municipal line along Washington Street was repaired in the spring of 1990 (Ref. 26). The sewer connection was scheduled for repair in the late summer of 1991 (Ref. 29). Groundwater flow gradients across the New York Emulsions Tar Products and Mohawk Valley Oil sites are approximately 0.015 ft/ft. These gradients appear consistent with those found in earlier studies (Ref. 2) and those found at the Monarch Chemical site.

Figure 4-5 shows the shallow groundwater flow pattern at the New York Emulsions Tar Products site and contiguous areas on January 7, 1991. Groundwater levels in monitoring wells SC-1, SC-3, and SC-9 could not be obtained on 1/7/91 due to a frozen lock/well cap at SC-1, access restriction to SC-3 (locked gate), and frozen groundwater within monitoring well SC-9. In general shallow groundwater flow is northeast, toward Utica Harbor. Near the northeast corner of Monarch Chemical groundwater contours swing eastward. This deflection of groundwater flow most likely reflects the southerly termination of Utica Harbor. The


UTICA HARBOR
MW 14-S 93.73'
MW 15-S 91.53'
SC-1 (NR)
HARBOR LIMIT
WALL
PRIVATE DRIVE
(NIAGARA MOHAWK)
MOHAWK VALLEY OIL
NIAGARA FLATS TERMINAL
MW 12-S 94.65
SC-2 94.66'
AUTO REPAIR SHOP
GATE
ROSELLI ASSOCIATES
TAR & ASPHALT
ABANDONED BUILDING
STREET
MOHAWK VALLEY OIL
TEXACO TERMINAL
SC-3 (NR)
MC-4 95.04'
MC-5 94.59'
ACID SHED
OFFICE
SC-7 97.49'
SC-8 98.98'
SC-9 (NR)
WASHINGTON
SC-10 97.92'
LEE STREET
DW-1
BARN
MW-4 96.21'
SC-4 97.49'
CHAIN LINK FENCE
NEW YORK EMULSIONS
TAR PRODUCTS
MONARCH CHEMICAL COMPANY
SC-6 98.10'
SC-5 97.71'
SUMP PIT (SW-4)
SITE LIMITS
MW-3 97.10'
MC-1 97.39'
98.00' MC-2
MC-3 97.24'
SCALE 0 50 100 FT.
LEGEND:
SC-10 URS MONITORING WELL (JULY-AUGUST 1990) 97.92' GROUNDWATER ELEVATION (01/07/91)
MW-14S C&S MONITORING WELL (1984) 93.73' GROUNDWATER ELEVATION (01/07/91)
INFERRED GROUNDWATER FLOW DIRECTION
NOTE
1) GROUNDWATER ELEVATIONS RELATIVE TO ASSUMED DATUM (SEE FIGURE 3-1)
2) CONTOUR INTERVAL = 1 FOOT
3) NO READING (NR)
4) TO CONVERT ASSUMED ELEVATIONS TO MSL DATUM ADD 307.65' TO ALL ELEVATIONS
GROUNDWATER CONTOUR MAP
JANUARY 7,1991
URS CONSULTANTS INC
FIGURE 4-5

C 2026

maximum recorded groundwater elevation occurred at monitoring well SC-8 (98.9 feet), which is located on the New York Emulsions Tar Products site. As shown in Figure 4-5, groundwater flow gradients range from approximately 0.1 ft/ft between MW-14S and Utica Harbor to approximately 0.004 ft/ft between SC-9 and SC-6 at the New York Emulsions Tar Products site. In general, the groundwater contours shown in Figures 4-4 and 4-5 are consistent with the groundwater flow pattern identified by Calocerinos & Spina for this portion of the Harbor Point area (Ref. 2).

Since a substantial number of permeability tests were performed on local sediments during previous investigations of the Harbor Point area (Ref. 2), hydraulic conductivity testing was not performed as part of this investigation. Horizontal hydraulic conductivity values for the shallow sandy fluvial sediments within the Harbor Point area have been calculated at 10^{-4} to 10^{-3} cm/s (Ref. 2). Also, vertical conductivities from sandy silts at intermediate depths (30-60 feet) have been calculated at 10^{-7} cm/s (Ref. 2).

4.4.3 Surface Water Hydrology

The nearest surface water body to the New York Emulsions Tar Products site is Utica Harbor, which lies approximately 200 feet northeast of the northeastern corner of the site (Figure 4-1). Utica Harbor is connected to the Mohawk River, which flows eastward and defines the western perimeter of the Harbor Point peninsula. Utica Harbor and the Mohawk River at this point are designated as Class C water bodies (Ref. 18).

Surface water at the New York Emulsions Tar Products site appears to infiltrate rapidly into the ground as a result of the loose, gravelly, surficial fill. Little to no vegetation was evident on site during the Phase II investigation.

Seven (7) protected freshwater wetlands are found within one mile of the site (Ref. 4). The Utica Marsh Wildlife Management Area is located among three wetlands (UE-2, UE-3, and UE-9), and is considered a reserve by NYSDEC (Ref. 4).

4.5 Site Contamination Assessment

4.5.1 Previous Investigations of Harbor Point Area

NYSDOH analyzed a sediment sample dredged from Utica Harbor in 1981. The sample was found to contain naphthalene, acenaphthylene, phenanthrene, and anthracene. It was determined that these compounds were not oil-derived. Additionally, a liquid/sludge sample was found to contain phenols and other analytes believed to be indicative of asphalt operations (Ref. 11).

In August 1982, Niagara Mohawk Power Corporation collected 4 samples (3 soil and 1 waste) on its Harbor Point property (Figure 4-1). Analyses conducted by RECRA Research, Inc., of Buffalo, New York, indicated the presence of 14 polynuclear aromatic hydrocarbons (PAHs, commonly present in coal tar compounds) at levels ranging from 0.23 mg/kg to 700 mg/kg in the 3 soil samples. The fourth sample was an assemblage of blue-stained pieces of wood which were shown to contain ferric ferrocyanide.

In 1984-1985, Calocerinos & Spina conducted a four-phase study of the Niagara Mohawk Harbor Point property, near the New York Emulsions Tar Products property, including its impacts on the Mohawk River. The study identified a surficial fill layer on the Harbor Point property which included building debris, gas production process wastes (i.e. coal-tar related materials), and other miscellaneous wastes, including municipal landfill refuse. Wastes in the center of the Harbor Point property (near the New York Emulsions Tar Products site) were shown to contain relatively high levels of PAHs (Ref. 2).

Results of Calocerinos & Spina's first-round sampling showed maximum concentrations of naphthalene in soil at 34,300 ppm (3.43%) near the southwest corner of the New York Emulsions Tar Products site, where vehicles were allegedly cleaned of road tar materials. Oils and tars were also evident in test pits and monitoring wells (MW-12S) on the New York Emulsions site periphery. New York Emulsions Tar Products used coal tar to manufacture road tar, pitches, creosote oils, and emulsified asphalt products for about 50 years (Figure 4-1) (Refs. 4,10,11).

Groundwater sampling by Calocerinos and Spina showed the highest Total Organic Carbon levels near the New York Emulsions plant and also near a gas storage tank 375 feet west of the plant (Figure 4-1). In addition, first-round groundwater data showed concentrations of phenol, naphthalene, acenaphthylene, and acenaphthene on or near the New York Emulsions Tar Products site (Ref. 11).

On the basis of the first-round findings, the northern part of the Harbor Point peninsula was eliminated from further investigation, and attention was directed more to the area surrounding the New York Emulsions property, the gas storage tank, and sewer lines (Ref. 2).

The second-round investigation by Calocerinos & Spina included the sampling and installation of 29 monitoring wells and 27 test pits. Eight (8) of these wells were located on the perimeter of the New York Emulsions Tar Products site (MW-12-S/I through MW-15S/I) (Figure 3-1). Groundwater analysis indicated the presence of acenaphthene, acenaphthylene, naphthalene; para-meta-, and ortho-xylenes; ethylbenzene, benzene, phenol, toluene, and cyanide. Maximum concentrations of naphthalene and benzene were found near the southeast corner of the New York Emulsions site. Calocerinos & Spina concluded that naphthalene concentrations were attributable both to the New York Emulsions site and to an offsite source further north. High benzene concentrations in groundwater (up to 11,000 mg/l on the eastern perimeter of the New York Emulsions site) were

attributed to a "fuel storage facility," presumed to be Mohawk Valley Oil's Texaco Terminal (Ref. 2).

In 1990, URS Consultants, Inc., finalized a Phase I report for the New York Emulsions Tar Products site (Ref. 4). The purpose of that investigation, in conjunction with similar Phase I Investigations at the Monarch Chemical and Mohawk Valley site, was to develop a site history, to identify site contaminants, to determine potential routes of contaminant migration, and to define populations at risk.

The preliminary HRS scoring developed for the Phase I Investigation of the New York Emulsions Tar Products site was:

$S_M = 10.74$ ($S_{GW} = 17.35$, $S_{SW} = 6.66$, $S_A = 0.00$)
$S_{FE} = 0.00$
$S_{DC} = 62.50$

4.5.2 Phase II Subsurface Soil Investigation

Six (6) onsite subsurface soil samples (i.e., SC-5 through SC-9 and SOIL-4) were analyzed for TCL analytes, TAL metals, and cyanide. One sample was obtained from each boring and their locations are shown on Figure 3-1. Refer to Table 3-2 for depths at which the samples were obtained. At most boring locations, strong petrochemical odors were encountered. Most retrieved split-spoon samples showed visual evidence of contamination in the form of coatings of oil-like sludge and/or tar. In many retrieved samples within the silty clay layer (Figure 4-2), the oil-like sludge and tar was observed in the soil pores/root holes which act as conduits for downward migration of the contamination. Contaminated soil was observed to depths extending to 16 feet (borehole termination). In addition, large quantities of free flowing tar were encountered, especially in SC-9, where black tar dripped from the augers when removed from the ground. Refer to Appendix C for boring logs and Appendix F for

a description of the samples. Table 4-2 presents the analytical data for the subsurface samples. The level of contamination for each chemical group is discussed below.

Volatiles - Volatile chemicals detected in soil samples included BTEX compounds and methylene chloride. BTEX compounds were detected in 5 of 6 soil samples. The total BTEX concentration ranged from 31,760 ppb at SC-8 to 332,000 ppb at SC-9. Methylene chloride was detected in 2 of the 6 samples, with concentrations ranging from 15 to 27,000 ppb [the 27,000 ppb reading is suspect due to its presence in the method blank as well]. The highest concentration of methylene chloride was detected at SOIL-4.

Semivolatiles - All semivolatiles detected in the soil samples were PAHs. A total of 18 PAH compounds was detected. Most of the 18 compounds were detected in each sample. The minimum concentration, in any sample, detected for any individual compound was 13,000 ppb (benzo(b) fluoranthene in SC-8). The maximum concentration was 4,600,000 ppb(naphthalene in SOIL-4). In general, most PAHs were detected above 100,000 ppb, and the total concentration of PAHs in all but one of the samples was above 100,000 ppb.

Pesticides and PCBs - Pesticides were detected in only two subsurface soil samples (i.e., SC-7 and SC-8). One pesticide was detected in SC-8 (120 ppb) and several pesticides, ranging in concentration from 32 to 6,200 ppb, were detected in SC-7. Aroclor 1254 was also detected in SC-7 at a concentration of 5,200 ppb. This was the only PCB detected.

Metals and Cyanide - All metals except antimony and silver were detected in subsurface soil. No true background samples can be taken in the area of the site since most of the surrounding area was utilized by industry. In general, metals concentrations were similar to those detected at both the Mohawk Valley Oil and Monarch Chemical sites. Metals concentrations were also compared to the range of naturally occurring

TABLE 4-2

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES

SAMPLE-ID		SC-5	SC-6	SC-7	SC-8	SC-9	SOIL-4
SAMPLE DEPTH (FT)		2-4	3-5	6-8	8-10	2-4	1.5-3.5
COLLECTION DATE		8/20/90	8/20/90	8/20/90	8/21/90	8/21/90	8/21/90
PARAMETER	TYPE						
CHLOROMETHANE	VOC		R				
BROMOMETHANE	VOC		R				
VINYL CHLORIDE	VOC		R				
CHLOROETHANE	VOC		R				
METHYLENE CHLORIDE	VOC		R		1,200		27,000 B
ACETONE	VOC		R				
CARBON DISULFIDE	VOC		R				
1,1-DICHLOROETHENE	VOC		R				
1,1-DICHLOROETHANE	VOC		R				
1,2-DICHLOROETHENE (TOTAL)	VOC		R				
CHLOROFORM	VOC		R				
1,2-DICHLOROETHANE	VOC		R				
2-BUTANONE	VOC		R				
1,1,1-TRICHLOROETHANE	VOC		R				
CARBON TETRACHLORIDE	VOC		R				
VINYL ACETATE	VOC		R				
BROMODICHLOROMETHANE	VOC		R				
1,2-DICHLOROPROPANE	VOC		R				
CIS-1,3-DICHLOROPROPENE	VOC		R				
TRICHLOROETHENE	VOC		R				
DIBROMOCHLOROMETHANE	VOC		R				
1,1,2-TRICHLOROETHANE	VOC		R				
BENZENE	VOC	1,700 J	R	6,400 J	760 J	13,000	
TRANS-1,3-DICHLOROPROPENE	VOC		R				
BROMOFORM	VOC		R				
4-METHYL-2-PENTANONE	VOC		R				
2-HEXANONE	VOC		R				
TETRACHLOROETHENE	VOC		R				
1,1,2,2-TETRACHLOROETHANE	VOC		R				
TOLUENE	VOC		R	36,000			25,000 X
CHLOROBENZENE	VOC		R				
ETHYLBENZENE	VOC	25,000	R	37,000	13,000	99,000	110,000
STYRENE	VOC		R				
TOTAL XYLENES	VOC	71,000	R	160,000	18,000	220,000	160,000

VOC - Volatile Organic Compounds

B - Indicates the compound was detected in the associated method blank

J - Indicates the value is less than the sample quantitation limit but greater than zero

X - Mass spectrum does not meet NYSDEC ASP criteria but compound presence is strongly suspected

R - Sample rejected due to ASP deviations

TABLE 4-2

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES

SAMPLE-ID		SC-5	SC-6	SC-7	SC-8	SC-9	SOIL-4
SAMPLE DEPTH (FT)		2-4	3-5	6-8	8-10	2-4	1.5-3.5
COLLECTION DATE		8/20/90	8/20/90	8/20/90	8/21/90	8/21/90	8/21/90
PARAMETER	TYPE						
PHENOL	SEMI						
BIS(2-CHLOROETHYL) ETHER	SEMI						
2-CHLOROPHENOL	SEMI						
1,3-DICHLOROBENZENE	SEMI						
1,4-DICHLOROBENZENE	SEMI						
BENZYL ALCOHOL	SEMI						
1,2-DICHLOROBENZENE	SEMI						
2-METHYLPHENOL	SEMI						
BIS(2-CHLOROISOPROPYL) ETHER	SEMI						
4-METHYLPHENOL	SEMI						
N-NITROSO-DI-N-PROPYLAMINE	SEMI						
HEXACHLOROETHANE	SEMI						
NITROBENZENE	SEMI						
ISOPHORONE	SEMI						
2-NITROPHENOL	SEMI						
2,4-DIMETHYLPHENOL	SEMI						
BENZOIC ACID	SEMI						
BIS(2-CHLOROETHOXY)METHANE	SEMI						
2,4-DICHLOROPHENOL	SEMI						
1,2,4-TRICHLOROBENZENE	SEMI						
NAPHTHALENE	SEMI	380,000 D		540,000 D	74,000	330,000 D	4,600,000 D
4-CHLOROANILINE	SEMI						
HEXACHLOROBUTADIENE	SEMI						
4-CHLORO-3-METHYLPHENOL	SEMI						
2-METHYLNAPHTHALENE	SEMI	230,000		290,000	70,000	140,000	2,600,000 D
HEXACHLOROCYCLOPENTADIENE	SEMI						
2,4,6-TRICHLOROPHENOL	SEMI						
2,4,5-TRICHLOROPHENOL	SEMI						
2-CHLORONAPHTHALENE	SEMI						
2-NITROANILINE	SEMI						
DIMETHYLPHTHALATE	SEMI						
ACENAPHTHYLENE	SEMI			62,000		16,000 J	250,000
2,6-DINITROTOLUENE	SEMI						
3-NITROANILINE	SEMI						

SEMI - Semivolatiles

All results reported in µg/kg (ppb).

D - Sample analyzed with dilution

J - Indicates the value is less than the sample quantitation limit but greater than zero

TABLE 4-2

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES

SAMPLE-ID		SC-5	SC-6	SC-7	SC-8	SC-9	SOIL-4
SAMPLE DEPTH (FT)		2-4	3-5	6-8	8-10	2-4	1.5-3.5
COLLECTION DATE		8/20/90	8/20/90	8/20/90	8/21/90	8/21/90	8/21/90
PARAMETER	TYPE						
ACENAPHTHENE	SEMI	190,000		240,000	53,000	38,000	480,000
2,4-DINITROPHENOL	SEMI						
4-NITROPHENOL	SEMI						
DIBENZOFURAN	SEMI	220,000 D		220,000		57,000	340,000
2,4-DINITROTOLUENE	SEMI						
DIETHYLPHTHALATE	SEMI						
4-CHLOROPHENYL-PHENYL ETHER	SEMI						
FLUORENE	SEMI	440,000 D		350,000	61,000	85,000	680,000
4-NITROANILINE	SEMI						
4,6-DINITRO-2-METHYLPHENOL	SEMI						
N-NITROSODIPHENYLAMINE	SEMI						
4-BROMOPHENYL-PHENYL ETHER	SEMI						
HEXACHLOROBENZENE	SEMI						
PENTACHLOROPHENOL	SEMI						
PHENANTHRENE	SEMI	1,700,000 D		810,000	170,000	270,000 D	2,700,000 D
ANTHRACENE	SEMI	370,000 D		200,000	49,000	79,000	460,000
DI-N-BUTYLPHTHALATE	SEMI						
FLUORANTHENE	SEMI	1,000,000 D		930,000 D	55,000	220,000	600,000
PYRENE	SEMI	790,000 D			97,000	190,000	600,000
BUTYLBENZYLPHTHALATE	SEMI						
3,3'-DICHLOROBENZIDINE	SEMI						
BENZO(A)ANTHRACENE	SEMI	480,000 D		440,000 D		98,000	270,000
CHRYSENE	SEMI	430,000 D		430,000 D	40,000	100,000	200,000
BIS(2-ETHYLHEXYL)PHTHALATE	SEMI						
DI-N-OCTYL PHTHALATE	SEMI						
BENZO(B)FLUORANTHENE	SEMI	330,000 D		330,000 D	13,000 J	97,000	790,000 DZ
BENZO(K)FLUORANTHENE	SEMI	310,000 D		350,000 D	21,000 J	110,000	Z
BENZO(A)PYRENE	SEMI	310,000 D		400,000	24,000 J	90,000	160,000
INDENO(1,2,3-CD)PYRENE	SEMI	94,000		110,000		31,000	330,000
DIBENZ(A,H)ANTHRACENE	SEMI	27,000		27,000 J			
BENZO(G,H,I)PERYLENE	SEMI	60,000		82,000		21,000 J	75,000 J

SEMI - Semivolatiles

All results reported in µg/kg (ppb)

D - Sample analyzed with dilution

J - Indicates the value is less than the sample quantitation limit but greater than zero

Z - Compound peaks unable to be separated chromatographically for quantitation

TABLE 4-2

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES

SAMPLE-ID		SC-5	SC-6	SC-7	SC-8	SC-9	SOIL-4
SAMPLE DEPTH (FT)		2-4	3-5	6-8	8-10	2-4	1.5-3.5
COLLECTION DATE		8/20/90	8/20/90	8/20/90	8/21/90	8/21/90	8/21/90
PARAMETER	TYPE						
ALPHA-BHC	PST						
BETA-BHC	PST						
DELTA-BHC	PST						
GAMMA-BHC (LINDANE)	PST			32			
HEPTACHLOR	PST						
ALDRIN	PST						
HEPTACHLOR EPOXIDE	PST						
ENDOSULFAN I	PST				120		
DIELDRIN	PST						
4,4'-DDE	PST			120			
ENDRIN	PST			50			
ENDOSULFAN II	PST			190			
4,4'-DDD	PST			75			
ENDOSULFAN SULFATE	PST						
4,4'-DDT	PST			2,100			
METHOXYCHLOR	PST			6,200			
ENDRIN KETONE	PST			580			
ALPHA-CHLORDANE	PST						
GAMMA-CHLORDANE	PST			230			
TOXAPHENE	PST						
AROCLOR-1016	PCB						
AROCLOR-1221	PCB						
AROCLOR-1232	PCB						
AROCLOR-1242	PCB						
AROCLOR-1248	PCB						
AROCLOR-1254	PCB			5,200			
AROCLOR-1260	PCB						

PST - Pesticides

PCB - Polychlorinated Biphenyls

All results reported in µg/kg (ppb)

TABLE 4-2

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES

SAMPLE-ID		SC-5	SC-6	SC-7	SC-8	SC-9	SOIL-4
SAMPLE DEPTH (FT)		2-4	3-5	6-8	8-10	2-4	1.5-3.5
COLLECTION DATE		8/20/90	8/20/90	8/20/90	8/21/90	8/21/90	8/21/90
PARAMETER	TYPE						
ALUMINUM	MCP	1970	2060	15200	17000	10500	6510
ANTIMONY	MCP						
ARSENIC	MCP	5.6	46.6	4.7	6.9	6.4	9.4
BARIUM	MCP	21.1 B	22.3 B	64.4	121	83.7	78.3
BERYLLIUM	MCP			0.71 B	0.79 B	0.98 B	0.25 B
CADMIUM	MCP					0.79 B	
CALCIUM	MCP	84600	9720	9960	7140	88600	21500
CHROMIUM	MCP	1.8 B	6.5	23.6	22.7	11.4	9.1
COBALT	MCP	2.9 B	3.7 B	11.6 B	10.3 B	8.5 B	5.7 B
COPPER	MCP	15	13	37.6	32.7	35.6	50.5
IRON	MCP	5140	17100	22900	26300	22400	16700
LEAD	MCP	16.6	15.5	18.2	30.6	74.1	306
MAGNESIUM	MCP	3040	674 B	6430	5490	5330	4410
MANGANESE	MCP	53.2	197	377	333	244	545
MERCURY	MCP					1.1	0.71
NICKEL	MCP	6.3 B	7.4 B	28.2	28.2	19.9	13.7
POTASSIUM	MCP		146 B	3240	1970	1710	898 B
SELENIUM	MCP			0.82 B			1.0 B
SILVER	MCP						
SODIUM	MCP	149 B	74.7 B	519 B	94.6 B	106 B	110 B
THALLIUM	MCP						0.32 B
VANADIUM	MCP	6.8 B	8.5 B	29.3	30.3	19.3	13.7
ZINC	MCP	70	39.4	81.3	88.7	101	113
CYANIDE	MCP			2.9		5.6	

MCP - Metals, Cyanide

All results reported in mg/kg (ppm) unless otherwise specified

concentrations of metals detected in eastern U.S. soil (Ref. 21). The comparison shows that all detected metals were present at concentrations within the published ranges.

Cyanide was detected in SC-7 and SC-9 at concentrations of 2.9 and 5.6 ppm, respectively.

Summary: The contaminants of concern at the site are BTEX and PAH. These compounds are commonly associated with coal gas production. Therefore, the presence of these compounds in subsurface soil probably resulted from operations at the site, which included processing of coal tar residues.

4.5.3 Phase II Groundwater Investigation

Five (5) onsite monitoring wells (SC-5 through SC-9) were sampled during the Phase II investigation. The locations of the wells are shown on Figure 3-1. The samples were analyzed for TCL volatiles, TCL semivolatiles and cyanide. During the purging and sampling of the monitoring wells, most samples gave off a slight to strong naphtha and tar odor. In addition, the surface of samples from SC-5, SC-6, and SC-9 showed an oil sheen. Refer to Appendix F for a description of the samples. HNu (PID) readings of the headspace in the monitoring wells ranged from 0 ppm (SC-7 and SC-8) to 16.8 ppm (SC-5). Intermediate readings were 11.5 ppm (SC-6) and 15.5 ppm (SC-9). The analytical results are presented in Table 4-3. The level of contamination with respect to each chemical group is discussed below.

Volatiles - The BTEX compounds were the only volatile compounds detected in onsite groundwater. In general benzene was detected at the highest concentrations. The highest concentration of any volatile reported was benzene at 2,600 ppb in SC-5. The total concentration of BTEX in the 5 wells ranged from 23 ppb to 5,440 ppb. The highest BTEX concentrations were detected in SC-5, SC-7, and SC-9. The BTEX

TABLE 4-3

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - GROUNDWATER SAMPLES

SAMPLE-ID		* ARAR	SC-5	SC-6	SC-7	SC-8	SC-9	DW-1
SAMPLE TYPE		Value	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	DRILL WATER
COLLECTION DATE		(ppb)	10/03/90	10/03/90	10/03/90	10/03/90	10/03/90	8/23/90
PARAMETER	TYPE							
CHLOROMETHANE	VOC	5						
BROMOMETHANE	VOC	5						
VINYL CHLORIDE	VOC	2						
CHLOROETHANE	VOC	5						
METHYLENE CHLORIDE	VOC	5						
ACETONE	VOC	50						
CARBON DISULFIDE	VOC	50						
1,1-DICHLOROETHENE	VOC	5						
1,1-DICHLOROETHANE	VOC	5						
1,2-DICHLOROETHENE (TOTAL)	VOC	5						
CHLOROFORM	VOC	100						68
1,2-DICHLOROETHANE	VOC	5						
2-BUTANONE	VOC	50						
1,1,1-TRICHLOROETHANE	VOC	5						
CARBON TETRACHLORIDE	VOC	5						
VINYL ACETATE	VOC	50						
BROMODICHLOROMETHANE	VOC	50 G						
1,2-DICHLOROPROPANE	VOC	5						
CIS-1,3-DICHLOROPROPENE	VOC	5						
TRICHLOROETHENE	VOC	5						
DIBROMOCHLOROMETHANE	VOC	50						
1,1,2-TRICHLOROETHANE	VOC	5						
BENZENE	VOC	ND	2,600	8	1,000	3J	1,500	
TRANS-1,3-DICHLOROPROPENE	VOC	5						
BROMOFORM	VOC	50 G						
4-METHYL-2-PENTANONE	VOC	50						
2-HEXANONE	VOC	50 G						
TETRACHLOROETHENE	VOC	5						
1,1,2,2-TETRACHLOROETHANE	VOC	5						
TOLUENE	VOC	5	600		160		760	3 J
CHLOROBENZENE	VOC	5						
ETHYLBENZENE	VOC	5	940				600	
STYRENE	VOC	5						
TOTAL XYLENES	VOC	5	1,300	23	580	20	680	

VOC - Volatile Organic Compounds

ND - Non Detectable

All results reported in µg/L (ppb).

G - Guidance values

J - Indicates the value is less than the sample quantitation limit but greater than zero

TABLE 4-3

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - GROUNDWATER SAMPLES

SAMPLE-ID		* ARAR	SC-5	SC-6	SC-7	SC-8	SC-9	DW-1
SAMPLE TYPE		Value	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	DRILL WATER
COLLECTION DATE		(ppb)	10/03/90	10/03/90	10/03/90	10/03/90	10/03/90	8/23/90
PARAMETER	TYPE							
PHENOL	SEMI	1 #					2,300	
BIS(2-CHLOROETHYL) ETHER	SEMI	1						
2-CHLOROPHENOL	SEMI	1 #						
1,3-DICHLOROBENZENE	SEMI	5						
1,4-DICHLOROBENZENE	SEMI	4.7						
BENZYL ALCOHOL	SEMI	50						
1,2-DICHLOROBENZENE	SEMI	4.7						
2-METHYLPHENOL	SEMI	50	52 J		300		840	
BIS(2-CHLOROISOPROPYL) ETHER	SEMI	5						
4-METHYLPHENOL	SEMI	1 #			120		2,100	
N-NITROSO-DI-N-PROPYLAMINE	SEMI	50						
HEXACHLOROETHANE	SEMI	5						
NITROBENZENE	SEMI	5						
ISOPHORONE	SEMI	50 G						
2-NITROPHENOL	SEMI	1 #						
2,4-DIMETHYLPHENOL	SEMI	1 #	110		690	8 J	530	
BENZOIC ACID	SEMI	50						
BIS(2-CHLOROETHOXY)METHANE	SEMI	5						
2,4-DICHLOROPHENOL	SEMI	1 #						
1,2,4-TRICHLOROBENZENE	SEMI	5						
NAPHTHALENE	SEMI	10 G	1,500	180 D	77		5,900 D	
4-CHLOROANILINE	SEMI	5						
HEXACHLOROBUTADIENE	SEMI	5						
4-CHLORO-3-METHYLPHENOL	SEMI	1 #						
2-METHYLNAPHTHALENE	SEMI	5	640	120	67		400	
HEXACHLOROCYCLOPENTADIENE	SEMI	5						
2,4,6-TRICHLOROPHENOL	SEMI	1 #						
2,4,5-TRICHLOROPHENOL	SEMI	1 #						
2-CHLORONAPHTHALENE	SEMI	5						
2-NITROANILINE	SEMI	5						
DIMETHYLPHTHALATE	SEMI	50 G						
ACENAPHTHYLENE	SEMI	50		36	41 J			
2,6-DINITROTOLUENE	SEMI	5						
3-NITROANILINE	SEMI	5						

SEMI - Semivolatiles

ND - Non Detectable

All results reported in µg/L (ppb).

G - Guidance values

- Sum all phenolic compounds

D - Sample analyzed with dilution

J - Indicates the value is less than the sample quantitation limit but greater than zero

TABLE 4-3

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - GROUNDWATER SAMPLES

SAMPLE-ID		* ARAR	SC-5	SC-6	SC-7	SC-8	SC-9	DW-1
SAMPLE TYPE		Value	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	DRILL WATER
COLLECTION DATE		(ppb)	10/03/90	10/03/90	10/03/90	10/03/90	10/03/90	8/23/90
PARAMETER	TYPE							
ACENAPHTHENE	SEMI	20 G	290	74	300	72	130 X	
2,4-DINITROPHENOL	SEMI	1 #						
4-NITROPHENOL	SEMI	1 #						
DIBENZOFURAN	SEMI	50	140	7 J	160	9 J	170	
2,4-DINITROTOLUENE	SEMI	5						
DIETHYLPHTHALATE	SEMI	50 G						
4-CHLOROPHENYL-PHENYL ETHER	SEMI	5						
FLUORENE	SEMI	50 G	250	58	220	12	190	
4-NITROANILINE	SEMI	5						
4,6-DINITRO-2-METHYLPHENOL	SEMI	1 3						
N-NITROSODIPHENYLAMINE	SEMI	50 G						
4-BROMOPHENYL-PHENYL ETHER	SEMI	5						
HEXACHLOROBENZENE	SEMI	0.35						
PENTACHLOROPHENOL	SEMI	1 #						
PHENANTHRENE	SEMI	50 G	590	83	410		320	
ANTHRACENE	SEMI	50 G	170	19	68			
DI-N-BUTYLPHTHALATE	SEMI	50						
FLUORANTHENE	SEMI	50 G	320	18	140		100	
PYRENE	SEMI	50 G	300	16	100		92 J	
BUTYLBENZYLPHTHALATE	SEMI	50 G						
3,3'-DICHLOROBENZIDINE	SEMI	5						
BENZO(A)ANTHRACENE	SEMI	0.002 G	100		35 J			
CHRYSENE	SEMI	0.002 G	99 J		35 J			
BIS(2-ETHYLHEXYL)PHTHALATE	SEMI	50						8 JX
DI-N-OCTYL PHTHALATE	SEMI	50 G						
BENZO(B)FLUORANTHENE	SEMI	0.002 G						
BENZO(K)FLUORANTHENE	SEMI	0.002 G						
BENZO(A)PYRENE	SEMI	ND	81 J					
INDENO(1,2,3-CD)PYRENE	SEMI	0.002 G						
DIBENZ(A,H)ANTHRACENE	SEMI	50						
BENZO(G,H,I)PERYLENE	SEMI	50						

SEMI - Semivolatiles

ND - Non Detectable

All results reported in µg/L (ppb).

G - Guidance values

- Sum all phenolic compounds

D - Sample analyzed with dilution

J - Indicates the value is less than the sample quantitation limit but greater than zero

X - Mass spectrum does not meet NYSDEC ASP criteria but compound presence is strongly suspected

TABLE 4-3

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - GROUNDWATER SAMPLES

SAMPLE-ID		* ARAR Value (ppb)	SC-5	SC-6	SC-7	SC-8	SC-9	DW-1
SAMPLE TYPE			GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	DRILL WATER
COLLECTION DATE			10/03/90	10/03/90	10/03/90	10/03/90	10/03/90	8/23/90
PARAMETER	TYPE							
ALPHA-BHC	PST	ND	NA	NA	NA	NA	NA	
BETA-BHC	PST	ND	NA	NA	NA	NA	NA	
DELTA-BHC	PST	ND	NA	NA	NA	NA	NA	
GAMMA-BHC (LINDANE)	PST	ND	NA	NA	NA	NA	NA	
HEPTACHLOR	PST	ND	NA	NA	NA	NA	NA	
ALDRIN	PST	ND	NA	NA	NA	NA	NA	
HEPTACHLOR EPOXIDE	PST	ND	NA	NA	NA	NA	NA	
ENDOSULFAN I	PST	5	NA	NA	NA	NA	NA	
DIELDRIN	PST	ND	NA	NA	NA	NA	NA	
4,4'-DDE	PST	ND	NA	NA	NA	NA	NA	
ENDRIN	PST	ND	NA	NA	NA	NA	NA	
ENDOSULFAN II	PST	5	NA	NA	NA	NA	NA	
4,4'-DDD	PST	ND	NA	NA	NA	NA	NA	
ENDOSULFAN SULFATE	PST	5	NA	NA	NA	NA	NA	
4,4'-DDT	PST	ND	NA	NA	NA	NA	NA	
METHOXYCHLOR	PST	35	NA	NA	NA	NA	NA	
ENDRIN KETONE	PST	5	NA	NA	NA	NA	NA	
ALPHA-CHLORDANE	PST	0.1	NA	NA	NA	NA	NA	
GAMMA-CHLORDANE	PST	0.1	NA	NA	NA	NA	NA	
TOXAPHENE	PST	ND	NA	NA	NA	NA	NA	
AROCLOR-1016	PCB	0.1	NA	NA	NA	NA	NA	
AROCLOR-1221	PCB	0.1	NA	NA	NA	NA	NA	
AROCLOR-1232	PCB	0.1	NA	NA	NA	NA	NA	
AROCLOR-1242	PCB	0.1	NA	NA	NA	NA	NA	
AROCLOR-1248	PCB	0.1	NA	NA	NA	NA	NA	
AROCLOR-1254	PCB	0.1	NA	NA	NA	NA	NA	
AROCLOR-1260	PCB	0.1	NA	NA	NA	NA	NA	

PST - Pesticides

PCB - Polychlorinated Biphenyls

ND - Non Detectable

NA - Not Analyzed

All results reported in µg/L (ppb).

TABLE 4-3

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - GROUNDWATER SAMPLES

SAMPLE-ID		* ARAR Value (ppb)	SC-5	SC-6	SC-7	SC-8	SC-9	DW-1
SAMPLE TYPE			GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	DRILL WATER
COLLECTION DATE			10/03/90	10/03/90	10/03/90	10/03/90	10/03/90	8/23/90
PARAMETER	TYPE							
ALUMINUM	MCP		NA	NA	NA	NA	NA	791
ANTIMONY	MCP	3 G	NA	NA	NA	NA	NA	
ARSENIC	MCP	25	NA	NA	NA	NA	NA	4.9 B
BARIUM	MCP	1,000	NA	NA	NA	NA	NA	19.6 B
BERYLLIUM	MCP	3 G	NA	NA	NA	NA	NA	
CADMIUM	MCP	10	NA	NA	NA	NA	NA	
CALCIUM	MCP		NA	NA	NA	NA	NA	12,900
CHROMIUM	MCP	50	NA	NA	NA	NA	NA	
COBALT	MCP		NA	NA	NA	NA	NA	
COPPER	MCP	200	NA	NA	NA	NA	NA	37
IRON	MCP	300#	NA	NA	NA	NA	NA	1,640
LEAD	MCP	25	NA	NA	NA	NA	NA	5.5
MAGNESIUM	MCP	35,000 G	NA	NA	NA	NA	NA	1,270 B
MANGANESE	MCP	300#	NA	NA	NA	NA	NA	396
MERCURY	MCP	2	NA	NA	NA	NA	NA	
NICKEL	MCP		NA	NA	NA	NA	NA	
POTASSIUM	MCP		NA	NA	NA	NA	NA	
SELENIUM	MCP	10	NA	NA	NA	NA	NA	
SILVER	MCP	50	NA	NA	NA	NA	NA	
SODIUM	MCP	20,000	NA	NA	NA	NA	NA	2,980 B
THALLIUM	MCP	4 G	NA	NA	NA	NA	NA	
VANADIUM	MCP		NA	NA	NA	NA	NA	
ZINC	MCP	300	NA	NA	NA	NA	NA	55.5
CYANIDE	MCP	100	665	<10.0	1,390	43.7	21.7	

MCP - Metals, Cyanide

B - Value is less than the quantitation limit but greater than or equal to the instrument detection limit

NA - Not Analyzed

All results reported in µg/L (ppb) unless otherwise specified.

* - NYSDEC Ambient Water Quality Standards and Guidance Values, September 1990

G - Guidance values

- 500 ppb standard for sum of iron and manganese

concentrations detected in SC-6 and SC-8 were 31 ppb and 23 ppb respectively. Thirteen (13) of the 15 BTEX detections exceeded New York State groundwater standards.

Semivolatiles - Four (4) phenolic compounds and 13 PAHs were detected in groundwater. The total concentrations of detected phenolic compounds ranged from 8 to 5,770 ppb while the concentration of PAHs ranged from 93 to 7,302 ppb. As with the volatile compounds, most contamination was detected in SC-5, SC-7, and SC-9. As shown on Table 4-3, New York State Groundwater Quality Standards exist for two compounds detected, and New York State Quality Guidelines for nine compounds detected. The eleven compounds for which there are standards or guidelines include phenol and 10 PAHs. The concentrations of these compounds exceeded New York State Standards or Guidelines for 31 of the 35 detections.

Cyanide - Cyanide was detected in four of the five groundwater samples at a range from 21.7 ppb to 1,390 ppb. Two of the detections were above the New York State Standard for cyanide.

Summary: BTEX and PAHs are the primary contaminants of concern because of their frequency of occurrence and concentrations. These contaminants are considered at least partially attributable to the site since they were detected in groundwater and were also detected in subsurface soil samples and since these compounds are commonly found in the coal tar residue which was processed at the site. Cyanide was detected in both soil and groundwater, the soil concentrations are significantly higher than those detected in groundwater. Phenolic compounds that were detected in groundwater were not detected in onsite soil.

4.5.4 Phase II Surface Water Investigation

Water from an onsite sump pit (SW-4) was analyzed for the TCL analytes, TAL metals, and cyanide (Table 4-4). Low concentrations of BTEX compounds and 4 PAHs were detected in the water. The total concentration of BTEX and PAHs was 40 ppb and 81 ppb, respectively.

4.5.5 Phase II Waste Characterization Assessment

A waste tar sample collected from the site surface was tested for hazardous waste characteristics. Tests for reactivity, corrosivity, ignitability, and EP Toxicity indicate this sample to be nonhazardous. Barium , detected at 56.4 ppb, was the only EP toxicity metal parameter detected. Herbicides and pesticides were not detected. Table 4-5 illustrates the results of this analytical testing.

4.6 Air Quality

No air contamination above action levels was recorded during the Phase II drilling program. However, organic contamination was detected above background levels during drilling and well installation at SC-5, SC-6, and SC-7. HNu readings reached 2 ppm in the breathing zone at each well. Following well placement and grouting, air monitoring readings returned to background levels.

4.7 Impact on Human Health and the Environment

The results of groundwater analysis clearly indicate that groundwater at the site is contaminated. However, since groundwater is not known to be used as a drinking water source in the vicinity of the site, groundwater ingestion is not considered a significant potential route of human exposure. A larger immediate concern is the potential migration of contaminated groundwater into Utica Harbor. Not only can

TABLE 4–4

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS – SURFACE WATER SAMPLE

SAMPLE-ID		SW-4
SAMPLE TYPE		SURFACE WATER
COLLECTION DATE		10/04/90
PARAMETER	TYPE	
CHLOROMETHANE	VOC	
BROMOMETHANE	VOC	
VINYL CHLORIDE	VOC	
CHLOROETHANE	VOC	
METHYLENE CHLORIDE	VOC	
ACETONE	VOC	
CARBON DISULFIDE	VOC	
1,1-DICHLOROETHENE	VOC	
1,1-DICHLOROETHANE	VOC	
1,2-DICHLOROETHENE (TOTAL)	VOC	
CHLOROFORM	VOC	
1,2-DICHLOROETHANE	VOC	
2-BUTANONE	VOC	
1,1,1-TRICHLOROETHANE	VOC	
CARBON TETRACHLORIDE	VOC	
VINYL ACETATE	VOC	
BROMODICHLOROMETHANE	VOC	
1,2-DICHLOROPROPANE	VOC	
CIS-1,3-DICHLOROPROPENE	VOC	
TRICHLOROETHENE	VOC	
DIBROMOCHLOROMETHANE	VOC	
1,1,2-TRICHLOROETHANE	VOC	
BENZENE	VOC	15
TRANS-1,3-DICHLOROPROPENE	VOC	
BROMOFORM	VOC	
4-METHYL-2-PENTANONE	VOC	
2-HEXANONE	VOC	
TETRACHLOROETHENE	VOC	
1,1,2,2-TETRACHLOROETHANE	VOC	
TOLUENE	VOC	4 J
CHLOROBENZENE	VOC	
ETHYLBENZENE	VOC	8
STYRENE	VOC	
TOTAL XYLENES	VOC	13

VOC – Volatile Organic Compounds

All results reported in $\mu g/L$ (ppb)

J = Indicates the value is less than the sample quantitation limit but greater than zero

TABLE 4-4

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - SURFACE WATER SAMPLE

SAMPLE-ID		SW-4
SAMPLE TYPE		SURFACE WATER
COLLECTION DATE		10/04/90
PARAMETER	TYPE	
PHENOL	SEMI	
BIS(2-CHLOROETHYL) ETHER	SEMI	
2-CHLOROPHENOL	SEMI	
1,3-DICHLOROBENZENE	SEMI	
1,4-DICHLOROBENZENE	SEMI	
BENZYL ALCOHOL	SEMI	
1,2-DICHLOROBENZENE	SEMI	
2-METHYLPHENOL	SEMI	
BIS(2-CHLOROISOPROPYL) ETHER	SEMI	
4-METHYLPHENOL	SEMI	
N-NITROSO-DI-N-PROPYLAMINE	SEMI	
HEXACHLOROETHANE	SEMI	
NITROBENZENE	SEMI	
ISOPHORONE	SEMI	
2-NITROPHENOL	SEMI	
2,4-DIMETHYLPHENOL	SEMI	
BENZOIC ACID	SEMI	
BIS(2-CHLOROETHOXY)METHANE	SEMI	
2,4-DICHLOROPHENOL	SEMI	
1,2,4-TRICHLOROBENZENE	SEMI	
NAPHTHALENE	SEMI	
4-CHLOROANILINE	SEMI	
HEXACHLOROBUTADIENE	SEMI	
4-CHLORO-3-METHYLPHENOL	SEMI	
2-METHYLNAPHTHALENE	SEMI	
HEXACHLOROCYCLOPENTADIENE	SEMI	
2,4,6-TRICHLOROPHENOL	SEMI	
2,4,5-TRICHLOROPHENOL	SEMI	
2-CHLORONAPHTHALENE	SEMI	
2-NITROANILINE	SEMI	
DIMETHYLPHTHALATE	SEMI	
ACENAPHTHYLENE	SEMI	
2,6-DINITROTOLUENE	SEMI	
3-NITROANILINE	SEMI	

SEMI - Semivolatiles

All results reported in µg/L (ppb)

TABLE 4–4

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS – SURFACE WATER SAMPLE

SAMPLE-ID		SW-4
SAMPLE TYPE		SURFACE WATER
COLLECTION DATE		10/04/90
PARAMETER	TYPE	
ACENAPHTHENE	SEMI	20
2,4-DINITROPHENOL	SEMI	
4-NITROPHENOL	SEMI	
DIBENZOFURAN	SEMI	17
2,4-DINITROTOLUENE	SEMI	
DIETHYLPHTHALATE	SEMI	
4-CHLOROPHENYL-PHENYL ETHER	SEMI	
FLUORENE	SEMI	23
4-NITROANILINE	SEMI	
4,6-DINITRO-2-METHYLPHENOL	SEMI	
N-NITROSODIPHENYLAMINE	SEMI	
4-BROMOPHENYL-PHENYL ETHER	SEMI	
HEXACHLOROBENZENE	SEMI	
PENTACHLOROPHENOL	SEMI	
PHENANTHRENE	SEMI	21
ANTHRACENE	SEMI	
DI-N-BUTYLPHTHALATE	SEMI	
FLUORANTHENE	SEMI	
PYRENE	SEMI	
BUTYLBENZYLPHTHALATE	SEMI	
3,3'-DICHLOROBENZIDINE	SEMI	
BENZO(A)ANTHRACENE	SEMI	
CHRYSENE	SEMI	
BIS(2-ETHYLHEXYL)PHTHALATE	SEMI	
DI-N-OCTYL PHTHALATE	SEMI	
BENZO(B)FLUORANTHENE	SEMI	
BENZO(K)FLUORANTHENE	SEMI	
BENZO(A)PYRENE	SEMI	
INDENO(1,2,3-CD)PYRENE	SEMI	
DIBENZ(A,H)ANTHRACENE	SEMI	
BENZO(G,H,I)PERYLENE	SEMI	

SEMI – Semivolatiles

All results reported in µg/L (ppb)

TABLE 4–4

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS – SURFACE WATER SAMPLE

SAMPLE-ID		SW–4
SAMPLE TYPE		SURFACE WATER
COLLECTION DATE		10/04/90
PARAMETER	TYPE	
ALPHA-BHC	PST	
BETA-BHC	PST	
DELTA-BHC	PST	
GAMMA-BHC (LINDANE)	PST	
HEPTACHLOR	PST	
ALDRIN	PST	
HEPTACHLOR EPOXIDE	PST	
ENDOSULFAN I	PST	
DIELDRIN	PST	
4,4'-DDE	PST	
ENDRIN	PST	
ENDOSULFAN II	PST	
4,4'-DDD	PST	
ENDOSULFAN SULFATE	PST	
4,4'-DDT	PST	
METHOXYCHLOR	PST	
ENDRIN KETONE	PST	
ALPHA-CHLORDANE	PST	
GAMMA-CHLORDANE	PST	
TOXAPHENE	PST	
AROCLOR-1016	PCB	
AROCLOR-1221	PCB	
AROCLOR-1232	PCB	
AROCLOR-1242	PCB	
AROCLOR-1248	PCB	
AROCLOR-1254	PCB	
AROCLOR-1260	PCB	

PST – Pesticides

PCB – Polychlorinated Biphenyls

All results reported in μg/l (ppb)

TABLE 4-4

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS - SURFACE WATER SAMPLE

SAMPLE-ID		SW-4
SAMPLE TYPE		SURFACE WATER
COLLECTION DATE		10/04/90
PARAMETER	TYPE	
ALUMINUM	MCP	985
ANTIMONY	MCP	
ARSENIC	MCP	3.2 B
BARIUM	MCP	119 B
BERYLLIUM	MCP	4.7 B
CADMIUM	MCP	
CALCIUM	MCP	75,000
CHROMIUM	MCP	
COBALT	MCP	
COPPER	MCP	8.3 B
IRON	MCP	7,630
LEAD	MCP	9.8
MAGNESIUM	MCP	6,080
MANGANESE	MCP	546
MERCURY	MCP	
NICKEL	MCP	
POTASSIUM	MCP	18,700
SELENIUM	MCP	
SILVER	MCP	
SODIUM	MCP	11,900
THALLIUM	MCP	
VANADIUM	MCP	10.5 B
ZINC	MCP	55.5
CYANIDE	MCP	

MCP - Metals, Cyanide

All results reported in ug/L (ppb)

B - Value is less than the quantitation limit but greater than or equal to the instrument detection limit

TABLE 4-5

NEW YORK EMULSIONS TAR PRODUCTS, ID NO. 633031

ANALYTICAL RESULTS – SURFACE WASTE SAMPLE

SAMPLE-ID		* Maximum Concentration Level (ppb)	TAR - 1
SAMPLE DEPTH (FT)			Surface
COLLECTION DATE			10/05/90
PARAMETER	TYPE		
GAMMA - BHC (LINDANE)	PST	400	
ENDRIN	PST	20	
METHOXYCHLOR	PST	10,000	
TOXAPHENE	PST	500	
2,4,D	HERB	10,000	
SILVEX	HERB	1,000	
EP TOX ARSENIC	MET	5,000	
EP TOX BARIUM	MET	100,000	56.4
EP TOX CADMIUM	MET	1,000	
EP TOX CHROMIUM	MET	5,000	
EP TOX LEAD	MET	5,000	
EP TOX MERCURY	MET	200	
EP TOX SELENIUM	MET	1,000	
EP TOX SILVER	MET	5,000	
pH	MISC	>2 & <12	6.63
IGNITIBILITY	MISC	140 F	> 158
REACTIVITY - CYANIDE (ppm)	MISC	# 500	< .210
REACTIVITY - SULFIDE (ppm)	MISC	# 250	< 42.6

PST - Pesticides
HERB - Herbicides
MET - Metals
MISC - Miscellaneous characteristics
All results reported in ug/kg (ppb) unless otherwise specified
* Federal Register, Vol. 55, No. 126, June 28, 1990
# NYSDEC Guideline value

contaminant migration pollute the harbor, but the potential for human exposure can be greatly increased if it does so. Potentially significant routes of exposure to contaminants in the harbor include fish ingestion and direct dermal contact by recreational users of the harbor or by the employees of local industries. The volatile compounds (BTEX) in groundwater are of major concern since they are mobile, easily transported, and can bioaccumulate in fish tissue. In addition, one of the volatile compounds (benzene) is considered by USEPA to be a human carcinogen. PAHs are also a concern. Although the PAHs are much less water soluble, and therefore less mobile than the volatile compounds, they concentrate more readily in fish than do the volatile compounds. As with the volatile compounds, many PAHs are known or suspected carcinogens.

Another media that could be a significant source of risk to human health or the environment is onsite soil. Numerous tarry deposits are present on the surface of the site. Coal tar and coal tar products typically contain PAHs as evidenced by the subsurface soil analysis which indicated very high levels of PAH compounds. Children playing on the site can potentially come in contact with the PAH mixture, increasing the risk of direct dermal exposure with the carcinogenic contaminants.

EPA document PB86-134244, Health Effects Assessment for Polycyclic Aromatic Hydrocarbons, September 1984 (Ref. 28), discusses the carcinogenic nature of PAH mixtures generated by coal-tar and creosote oil processes. Skin painting and subcutaneous injection with coal tars and creosote oils have been shown to be carcinogenic in animals.

4.8 Conclusions

Based on the Phase II field investigation results and all other sources of information used to complete this report, the following conclusions may be drawn:

- Based on the Phase II Investigation, the site does not represent a significant threat to human health or the environment due to hazardous wastes. However, significant potential of exposure to carcinogenic compounds derived from coal gasification products (e.g., phenanthrene, anthracene, fluoranthene, pyrene, and benzo(b)fluoranthene) is present at the site, as evidenced by the analytical data. Although potential exposure via direct contact is high, the HRS score (S_m = 6.39) remains relatively low. This is largely the result of weighting factors in the HRS system.

- Although numerous hazardous compounds/substances have been documented on site, there is no documentation of hazardous waste disposal per 6NYCRR Part 371 at the site.

- Groundwater flow is radial away from the central portion of the site (Figure 4-4). The apparent mounding of groundwater at the site may be attributable to several factors including enhanced infiltration due to the high permeability of the onsite sand and gravel fill, geometry/hydrogeology of the Harbor Point peninsula, and residual effects of a formerly leaking municipal water line along Washington Street. It appears that most groundwater from the site eventually discharges to the Mohawk River/Utica Harbor System.

- Onsite subsurface soils are highly contaminated with PAHs and BTEX compounds and to a lesser extent, pesticides, PCBs, metals, and cyanide. The soil contamination is considered attributable to the site and probably resulted from the former asphalt emulsion and coal-tar related manufacturing processes at the site.

- Groundwater is contaminated with BTEX compounds, PAHs and cyanide. Groundwater contamination is attributable to the site since all compounds detected in groundwater, with the exception of phenolic compounds, were also detected in subsurface soils.

- The surface of the site is dotted with tarry deposits. A surface waste sample taken from one such pool proved to be non-hazardous by RCRA characteristics testing.

4.9 Recommendations

Based on the potential threat associated with direct contact with site contaminants and on the impact this site may have on the nearby wildlife reserve and wetlands, we believe re-calculation of the site's HRS score using USEPA's revised criteria is warranted. Apart from whether the site is rescored or not, however, it should be delisted. This recommendation is made on the basis of lack of documentation of disposal of hazardous waste, and upon absence of contaminants either listed in 6NYCRR Part 371, or exhibiting hazardous waste characteristics according to Part 371 criteria.

In addition, it is recommended that access to the site from the east be restricted by installation of a fence along the eastern property line.

5. Final Application of Hazard Ranking System

The New York Emulsions Tar Products site is located on the Harbor Point peninsula on the north side of Utica, New York. The site rests on land which has been used for a water gas/coal gasification plant from 1902 to the 1950s. The 2.96-acre New York Emulsions Tar Products site was acquired by Utica Gas and Electric (UGE) from the Davies family in 1923. In 1926, UGE sold the property to American Tar Products Company (Koppers Products Company). Utilizing the coal-tar residue from the adjacent Harbor Point coal gas production plant, Koppers began the processing of road tar, pitches, and creosote oils on site, and in later years added the production of asphalt emulsion. In March 1977, Koppers sold the property and inventory to Suit-Kote Corporation, of Cortland, New York. Inventory at the time of sale included road tar, asphalt, and naptha solvents. Suit-Kote operated the asphalt emulsion plant for several years, ceasing operations in 1983. Suit-Kote alleges that it sold all the road tar products it had acquired with the purchase of the site. The naptha inventory was reportedly depleted by Suit-Kote in the production of asphalt emulsion (Ref. 4). The plant was dismantled in 1987 through 1989. All onsite tanks and associated asbestos insulation, structures, tar/oil filled 55-gallon drums, and electrical transformers were removed by 1990 (Ref. 23, 24, 25).

Phase II analysis of groundwater samples, subsurface soil samples, a surface water sample, and one surface waste sample indicates the following:

- Onsite soils are severely contaminated with BTEX compounds, PAHs, and to a lesser extent, with pesticides, PCBs, metals, and cyanide.

- Onsite soil contamination is a major contributor to groundwater contamination with BTEX and PAH compounds.

- Surface wastes are prelavent at the site. A surface waste sample was shown to be non-hazardous by RCRA characteristics testing. Although potential exposure via direct contact is high, the HRS score (Sm = 6.39) remains relatively low. This is largely the result of weighting factors in the HRS system.

FACILITY NAME: N. Y. Emulsions Tar Products

LOCATION: Utica, New York

EPA REGION: II

PERSON(S) IN CHARGE OF THE FACILITY: Willam Fowlston (Safety Director)

Suite-Kote, P.O. Box 5160

Cortland, New York 13045-5160

NAME OF REVIEW URS Consultants, Inc. DATE: 1/14/91

GENERAL DESCRIPTION OF THE FACILTY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action;etc.)

The N. Y. Emulsions Tar Products site was the location of a facility which produced road tar, pitch and creosote from coal gas residue. The site is currently vacant and all tanks, drums and buildings have been removed. The former onsite lagoon has been filled and graded. Contamination of groundwater and soil has been detected during the sampling conducted during the Phase II investigation. Tar and other tar-like materials have been observed oozing out of the ground both on and offsite.

SCORES: Sm= 6.39 (Sgw = 3.06 Ssw = 11.63 Sa = 0.00)

Sfe = 0.00

Sdc = 62.50

HRS COVER SHEET

GROUND WATER ROUTE WORK SHEET

RATING FACTOR	ASSIGNED VALUE (CIRCLE ONE)	MULTI-PLIER	SCORE	MAX. SCORE	REF. (SECTION)
1 OBSERVED RELEASE	0 [45]	1	45	45	3.1
IF OBSERVED RELEASE IS GIVEN A SCORE OF 45, PROCEED TO LINE 4 IF OBSERVED RELEASE IS GIVEN A SCORE OF 0, PROCEED TO LINE 2					
2 ROUTE CHARACTERISTICS					3.2
DEPTH TO AQUIFER OF CONCERN	0 1 2 3 [ ]	2	0	6	
NET PRECIPITATION	0 1 2 3 [ ]	1		3	
PERMEABILITY OF THE UNSATURATED ZONE	0 1 2 3 [ ]	1		3	
PHYSICAL STATE	0 1 2 3 [ ]	1		3	
TOTAL ROUTE CHARACTERISTICS SCORE			0	15	
3 CONTAINMENT	0 1 2 3 [ ]	1		3	3.3
4 WASTE CHARACTERISTICS					
TOXICITY/PERSISTANCE	0 3 6 9 [12]	1	12	18	3.4
HAZARDOUS WASTE QUANTITY	12 15 18 0 1 2 3 [1] 4 5 6 7 8	1	1	8	
TOTAL WASTE CHARACTERISTICS SCORE			13	26	
5 TARGETS					
GROUND WATER USE	0 1 2 3 [1]	3	3	9	
DISTANCE TO NEAREST WELL /POPULATION SERVED	0 4 6 8 10 12 16 18 [0] 24 30 32 35 40	1	0	40	
TOTAL TARGETS SCORE			3	49	
6 IF LINE 1 IS 45, MULTIPLY 1 X 4 X 5 IF LINE 1 IS 0, MULTIPLY 2 X 3 X 4 X 5			1755 0	57,330	
7 DIVIDE LINE 6 BY 57,330 AND MULTIPLY BY 100					
		Sgw =	3.06		

GROUND WATER ROUTE WORK SHEET

SURFACE WATER ROUTE WORK SHEET

RATING FACTOR	ASSIGNED VALUE (CIRCLE ONE)	MULTI-PLIER	SCORE	MAX. SCORE	REF. (SECTION)
1 OBSERVED RELEASE	0 45 [45]	1	45	45	4.1
IF OBSERVED RELEASE IS GIVEN A SCORE OF 45, PROCEED TO LINE 4 IF OBSERVED RELEASE IS GIVEN A SCORE OF 0, PROCEED TO LINE 2					
2 ROUTE CHARACTERISTICS					4.2
FACILITIES SLOPE AND INTERVENING TERRAIN	0 1 2 3 [ ]	1		3	
1-yr 24 HOUR RAINFALL	0 1 2 3 [ ]	1		3	
DISTANCE TO NEAREST SURFACE WATER	0 1 2 3 [ ]	2	0	6	
PHYSICAL STATE	0 1 2 3 [ ]	1		3	
TOTAL ROUTE CHARACTERISTICS SCORE			0	15	
3 CONTAINMENT	0 1 2 3 [ ]	1		3	4.3
4 WASTE CHARACTERISTICS					
TOXICITY/PERSISTANCE	0 3 6 9 12 15 [18]	1	18	18	4.4
HAZARDOUS WASTE QUANTITY	1 2 3 4 5 6 7 8 [1]	1	1	8	
TOTAL WASTE CHARACTERISTICS SCORE			19	26	
5 TARGETS					4.5
SURFACE WATER USE	0 1 2 3 [2]	3	6	9	
DISTANCE TO A SENSITIVE ENVIRONMENT	0 1 2 3 [1]	2	2	6	
POPULATION SERVED/DIST TO WATER INTAKE DOWNSTREAM	0 4 6 8 10 12 16 18 20 24 30 32 35 40 [0]	1	0		
TOTAL TARGETS SCORE			8	55	
6 IF LINE 1 IS 45, MULTIPLY 1 X 4 X 5			6840		
IF LINE 1 IS 0, MULTIPLY 2 X 3 X 4 X 5			0	64,350	
7 DIVIDE LINE 6 BY 64,350 AND MULTIPLY BY 100					
		Ssw =	10.63		

SURFACE WATER ROUTE WORK SHEET

AIR ROUTE WORK SHEET

RATING FACTOR	ASSIGNED VALUE (CIRCLE ONE)	MULTI-PLIER	SCORE	MAX. SCORE	REF. (SECTION)
1 OBSERVED RELEAS	0 45 [0]	1	0	45	5.1
DATE AND LOCATIO 5/30/90- UTICA, NEW YORK					
SAMPLING PROTOCO HNμ (PID)					
IF LINE 1 IS 0, THE Sa =0. ENTER ON LINE 5 IF LINE 1 IS 45, THEN PROCEED TO; LINE 2.					
2 WASTE CHARACTERISTICS					5.2
REACTIVITY AND INCOMPATIBILITY	0 1 2 3 [ ]	1		3	
TOXICITY	0 1 2 3 [ ]	3	0	9	
HAZARDOUS WASTE QUANTITY	3 4 5 6 7 8 [ ]	1	0	8	
TOTAL WASTE CHARACTERISTICS SCORE			0	20	
3 TARGETS					5.3
POPULATION WITHIN 4 MILE RADIUS	O 9 12 21 24 27 [ ]	1	0	30	
DISTANCE TO SENSITIVE ENVIRONMENT	0 1 2 3 [ ]	2	0	6	
LAND USE	0 1 2 3 [ ]	1		3	
TOTAL TARGETS SCORE			0	39	
4 MULTIPLY 1 X 2 X 3			0	35,100	
5 DIVIDE LINE 4 BY 35,100 AND MULTIPLY BY 100 Sa= 0.00					

	S	S^2
GROUNDWATER ROUTE SCORE (Sgw)	3.06	9.37
SURFACE WATER ROUTE SCORE (Ssw)	10.63	112.98
AIR ROUTE SCORE (Sa)	0.00	0.00
$S^2gw + S^2sw + S^2a$		122.35
square root of($S^2gw + S^2sw + S^2a$)		11.06
square root of ($S^2gw + S^2sw + S^2a$)/1.73 = Sm		6.39

WORKSHEET FOR COMPUTING Sm

FIRE AND EXPLOSION WORK SHEET

RATING FACTOR	ASSIGNED VALUE (CIRCLE ONE)	MULTI-PLIER	SCORE	MAX. SCORE	REF. (SECTION)
1 CONTAINMENT	1 3	1		3	7.1
2 WASTE CHARACTERISTICS					
DIRECT EVIDENCE	0 3	1		3	7.2
IGNITABILITY	0 1 2 3	1		3	
REACTIVITY	0 1 2 3	1		3	
INCOMPATIBILITY	0 1 2 3	1		3	
HAZARDOUS WASTE QUANTITY	1 2 3 4 5 6 7 8	1		3 8	
TOTAL WASTE CHARACTERISTICS SCORE			0	20	
3 TARGETS					7.3
DISTANCE TO NEAREST POPULATION	0 1 2 3 4 5	1			
DISTANCE TO NEAREST BUILDING	0 1 2 3	1			
DISTANCE TO A SENSITIVE ENVIRONMENT	0 1 2 3	1		6	
LAND USE	0 1 2 3	1			
POPULATION WITHIN 2 MILE RADIUS	0 1 2 3 4 5	1			
BUILDINGS WITHIN 2 MILE RADIUS	0 1 2 3 4 5	1			
TOTAL TARGETS SCORE			0	24	
4 MULTIPLY 1 X 2 3			0	1,440	

5 DIVIDE LINE 4 BY 1,440 AND MULTIPLY BY 100

Sfe = 0.00

FIRE AND EXPLOSION WORK SHEET

DIRECT CONTACT WORK SHEET					
RATING FACTOR	ASSIGNED VALUE (CIRCLE ONE)	MULTI-PLIER	SCORE	MAX. SCORE	REF. (SECTION)
1 OBSERVED RELEASE	0 45 [0]	1	0	45	8.1
IF LINE 1 IS 45, PROCEED TO LINE 4 IF LINE 1 IS 0, PROCEED TO LINE 2					
2 ACCESSIBILITY	0 1 2 3 [3]	1	3	3	8.2
3 CONTAINMENT	0 15 [15]	1	15	15	8.3
4 WASTE CHARACTERISTICS TOXICITY	0 1 2 3 [3]	5	15	15	8.4
5 TARGETS					8.5
POPULATION WITHIN 1 MILE RADIUS	0 1 2 3 4 5 [5]	4	20	20	
DISTANCE TO A CRITICAL HABITAT	0 1 2 3 [0]	4	0	12	
TOTAL TARGETS SCORE			20	32	
6 IF LINE 1 IS 45, MULTIPLY 1 X 4 X 5 IF LINE 1 IS 0, MULTIPLY 2 X 3 X 4 X 5			0 13500	21,600	
7 DIVIDE LINE 6 BY 21,600 AND MULTIPLY BY 100			Sdc =	62.50	

DIRECT CONTACT WORK SHEET

GROUNDWATER ROUTE

1 OBSERVED RELEASE

o CONTAMINANTS DETECTED (5 MAXIMUM):

TOLUENE, XYLENE, BENZENE, NAPHTHALENE, ETHYLBENZENE

o RATIONALE FOR ATTRIBUTING THE CONTAMINANTS TO THE FACILITY:

ANALYTICAL DATA FROM PHASE II INVESTIGATION (Ref. 1)

SCORE=45

2. ROUTE CHARACTERISTICS

DEPTH TO AQUIFER OF CONCERN

o NAME/DESCRIPTION OF AQUIFER(S) OF CONCERN:

WATER TABLE AQUIFER IN HYDRAULIC CONNECTION WITH THE UTICA SHALE BEDROCK AQUIFER (Ref. 2)

o DEPTH(S) FROM THE GROUND SURFACE TO THE HIGHEST SEASONAL LEVEL OF THE SATURATED ZONE [WATER TABLE(S)] OF THE AQUIFER OF CONCERN:

1 FEET

o DEPTH FROM THE GROUND SURFACE TO THE LOWEST POINT OF WASTE DISPOSAL/STORAGE:

ON GROUND SURFACE

SCORE=3

NET PRECIPITATION

o MEAN ANNUAL OR SEASONAL PRECIPITATION(LIST MONTHS FOR SEASONAL):

41 INCHES (Ref. 3)

o MEAN ANNUAL OR SEASONAL EVAPORATION (LIST MONTHS FOR SEASONAL):

26 INCHES (Ref. 3)

o NET PRECIPITATION (SUBTRACT THE ABOVE FIGURES):

14 INCHES

SCORE=2

PERMEABILITY OF UNSATURATED ZONE

o SOIL TYPE IN UNSATURATED ZONE:

GLACIOLACUSTRINE SANDY SILT AND CLAY SEDIMENT (Ref. 4)

o PERMEABILITY ASSOCIATED WITH SOIL TYPE:

10^{-3} TO 10^{-5} CM/SEC (Ref. 4)

SCORE=2

PHYSICAL STATE

o PHYSICAL STATE OF SUBSTANCES AT TIME OF DISPOSAL (OR AT PRESENT TIME FOR GENERATED GASES):

SOLIDS, OILS AND TARS (Ref.D)

SCORE=3

3. CONTAINMENT

CONTAINMENT

o METHOD(S) OF WASTE OF LEACHATE CONTAINMENT EVALUATED:

NO CONTAIMENT SYSTEM IN PLACE, ALL DRUMS, TANKS AND BUILDINGS HAVE BEEN REMOVED, TAR AND TAR-LIKE SUBSTANCES HAVE BEEN OBSERVED ON THE GROUND SURFACE.

o METHOD WITH THE HIGHEST SCORE:

NO LINER

SCORE=3

4. WASTE CHARACTERISTICS

TOXICITY AND PERSISTENCE

COMPOUND EVALUATED	TOXICITY	PERSISTENCE	SCORE
BENZENE	3	1	12
NAPHTHALENE	3	1	12
XYLENE	2	1	9
ETHYLBENZENE	3	1	12

o COMPOUND WITH THE HIGHEST SCORE:

BENZENE

SCORE=12

HAZARDOUS WASTE QUANTITY

o TOTAL QUANTITY OF HAZARDOUS SUBSTANCES AT THE FACILITY, EXCLUDING THOSE WITH A CONTAINMENT SCORE OF 0(GIVE A REASONABLE ESTIMATE EVEN IF QUANTITY IS ABOVE MAXIMUM):

UNKNOWN

SCORE=1

o BASIS OF ESTIMATING AND/OR COMPUTING WASTE QUANTITY:

A MINIMUM QUANTITY IS SCORED A 1

5 TARGETS

GROUNDWATER USE

o USE(S) OF AQUIFER(S) OF CONCERN WITHIN A 3-MILE RADIUS OF THE FACILITY:

A SMALL NUMBER OF PEOPLE LIVING IN AREAS WITHIN A 3 MILE RADIUS OF THE SITE, BUT ON THE OTHER SIDE OF THE MOHAWK RIVER, USE PRIVTE RESIDENTIAL WELLS FOR POTABLE WATER. AS THE RIVER LIES BETWEEN THE SITE AND THOSE WELLS, THEY ARE ACROSS A GROUNDWATER DIVIDE AND ARE NOT THREATENED BY THE SITE.

A DUG WELL ON THE MONARCH CHEMICAL PROPERTY WAS PREVIOUSLY USED FOR INDUSTRIAL COOLING. HOWEVER, THIS PRACTICE WAS STOPPED DUE TO CONTAMINATION DETECTED IN THE WELL WATER. IT IS POSSIBLE THAT THERE ARE OTHER INDUSTRIAL COOLING WELLS ON THE SAME SIDE OF THE MOHAWK, WITHIN 3 MILES OF THE SITE, BUT THIS HAS NOT BEEN DOCUMENTED.

SCORE=1

DISTANCE OF NEAREST WELL

o LOCATION OF NEAREST WELL DRAWING FROM AQUIFER OF CONCERN OR OCCUPIED BUILDING NOT SERVED BY A PUBLIC WATER SUPPLY:

NONE REPORTED

o DISTANCE TO ABOVE WELL OR BUILDING:

NA

POPULATION SERVED BY GROUNDWATER WELL WITHIN A 3-MILE RADIUS

o IDENTIFIED WATER-SUPPLY WELL(S) DRAWING FROM AQUIFER(S) OF CONCERN WITHIN A 3-MILE RADIUS AND POPULATIONS SERVED BY EACH:

0 PEOPLE

o COMPUTATION OF LAND AREA IRRIGATED BY SUPPLY WELL(S) DRAWING FROM AQUIFER(S) OF CONCERN WITHIN A 3-MILE RADIUS, AND CONVERSION TO POPULATION(1.5 PEOPLE PER ACRE):

NONE REPORTED

o TOTAL POPULATION SERVED BY GROUNDWATER WITHIN A 3-MILE RADIUS:

0 PEOPLE

SCORE=0

SURFACE WATER ROUTE

1. OBSERVED RELEASE

o CONTAMINANTS DETECTED IN SURFACE WATER AT THE FACILITY OR DOWNHILL FROM IT (5 MAXIMUM):

BENZENE, ETHYLBENZENE, XYLENE

o RATIONALE FOR ATTRIBUTING THE CONTAMINANTS TO THE FACILITY:

ANALYTICAL DATA FROM A SURFACE WATER SAMPLE COLLECTED FROM A SUMP LOCATED NEAR THE SOUTH END OF THE SITE (Ref. 1)

SCORE=45

2. ROUTE CHARACTERISTICS

FACILITY SLOPE AND INTERVENING TERRAIN

o AVERAGE SLOPE OF THE FACILITY IN PERCENT:

0.5%(Ref. 4)

o NAME/DESCRIPTION OF THE NEAREST DOWNSLOPE SURFACE WATER:

UTICA HARBOR

o AVERAGE SLOPE OF TERRAIN BETWEEN FACILITY AND ABOVE-CITED SURFACE WATER IN PERCENT:

APPROXIMATELY 2% (Ref. 4)

o IS THE FACILITY LOCATED EITHER TOTALLY OR PARTIALLY IN SURFACE WATER?:

NO

SCORE=1

o IS THE FACILITY COMPLETELY SURROUNDED BY AREAS OF HIGHER ELEVATION?

NO

1-YEAR 24 HOUR RAINFALL IN INCHES

2.3 INCHES(Ref. 3)

SCORE=2

DISTANCE TO NEAREST DOWNSLOPE SURFACE WATER

500 FEET (Ref. 5)

SCORE=3

PHYSICAL STATE OF WASTE

SOLIDS, OILS AND TARS (Ref. 4)

SCORE=3

3. CONTAINMENT

CONTAINMENT

o METHOD(S) OF WASTE OR LEACHATE CONTAINMENT EVALUATED:

NO CONTAIMENT SYSTEM IN PLACE, ALL DRUMS, TANKS AND BUILDINGS HAVE BEEN REMOVED, TAR AND TAR-LIKE SUBSTANCES HAVE BEEN OBSERVED ON THE GROUND SURFACE DURING THE PHASE II INVESTIGATION.

o METHOD WITH THE HIGHEST SCORE:

NO LINER

SCORE=3

4. WASTE CHARACTERISTICS

TOXICITY AND PERSISTENCE

COMPOUND EVALUATED	TOXICITY	PERSISTENCE	SCORE
CYANIDE	3	3	18
BENZENE	3	1	12
XYLENE	2	1	9
ETHYLBENZENE	3	1	12

o COMPOUND WITH THE HIGHEST SCORE:

CYANIDE

SCORE=18

HAZARDOUS WASTE QUANTITY

o TOTAL QUANTITY OF HAZARDOUS SUBSTANCES AT THE FACILITY EXCLUDING THOSE WITH A CONTAINMENT SCORE OF 0 (GIVE A REASONABLE ESTIMATE EVEN IF QUANTITY IS ABOVE MAXIMUM):

UNKNOWN

SCORE=1

o BASIS OF ESTIMATING AND/OR COMPUTING WASTE QUANTITY:

MINIMUM QUANTITY OF WASTE IS SCORED A 1

5 TARGETS

SURFACE WATER USE

o USE(S) OF SURFACE WATER WITHIN 3 MILES DOWNSTREAM OF THE HAZARDOUS SUBSTANCE:

RECREATION

SCORE=2

o IS THERE TIDAL INFLUENCE?

NO

DISTANCE TO A SENSITIVE ENVIRONMENT

o DISTANCE TO A 5-ACRE(MINIMUM) COASTAL WETLAND, IF 2 MILES OR LESS:

NA

o DISTANCE TO A 5 ACRE (MINIMUM) FRESH-WATER WETLAND, IF 1 MILE OR LESS:

NYSDEC REGULATED WETLAND UE-9 IS LOCATED 1,900 FEET TO THE NORTHWEST OF THE SITE. ADDITIONALLY, NYSDEC REGULATED WETLAND UE-2,UE-3,UE-4, UE-5, UE-6,AND UE-10 ARE LOCATED WITHIN 1 MILE OF THE SITE(Ref. 4).

o DISTANCE TO CRITICAL HABITAT OF AN ENDANGERED SPECIES OR NATIONAL WILDLIFE REFUGE, IF 1 MILE OR LESS:

NONE REPORTED

SCORE=1

POPULATION SERVED BY SURFACE WATER

o LOCATION(S) OF WATER-SUPPLY INTAKE(S) WITHIN 3 MILES(FREE-FLOWING BODIES) OR 1 MILE (STATIC WATER BODIES) DOWNSTREAM OF THE HAZARDOUS SUBSTANCE AND POPULATION SERVED BY EACH INTAKE:

NO WATER INTAKES ARE LOCATED WITHIN 3 MILES OF THE SITE(Ref.4)

o COMPUTATION OF LAND AREA IRRIGATED BY ABOVE-CITED INTAKE(S) AND CONVERSION TO POPULATION (1.5 PEOPLE PER ACRE):

NONE

o TOTAL POPULATION SERVED

0 PEOPLE

o NAME/DESCRIPTION OF NEAREST ABOVE-CITED WATER BODIES:

NA

- DISTANCE TO ABOVE-CITED INTAKES, MEASURED IN STREAM MILES:

  NA

  SCORE=0

AIR ROUTE

1. OBSERVED RELEASE

o CONTAMINANTS DETECTED:

NONE

o DATE AND LOCATION OF DETECTION OF CONTAMINANTS:

5/30/90 - UTICA, NEW YORK

o METHODS USED TO DETECT THE CONTAMINANTS:

HNu (PID)

o RATIONALE FOR ATTRIBUTING THE CONTAMINANTS TO THE SITE:

NONE

SCORE=0

2. WASTE CHARACTERISTICS

REACTIVITY AND INCOMPATIBILITY

o MOST REACTIVE COMPOUND

NO OBSERVED AIR RELEASE

o MOST INCOMPATIBLE PAIR OF COMPOUNDS

NO OBSERVED AIR RELEASE

SCORE=0

TOXICITY

o MOST TOXIC COMPOUND

NO OBSERVED AIR RELEASE

SCORE=0

HAZARDOUS WASTE QUANTITY

o TOTAL QUANTITY OF HAZARDOUS WASTE:

NO OBSERVED AIR RELEASE

SCORE=0

o BASIS OF ESTIMATING AND/OR COMPUTING WASTE QUANTITY:

3 TARGETS

POPULATION WITHIN 4-MILE RADIUS

o UNDERLINE RADIUS USED, GIVE POPULATION AND INDICATE HOW DETERMINED:

0 TO 4 MI 0 TO 1 MI 0 TO 0.5 MI 0 TO 0.25 MI

NO OBSERVED AIR RELEASE

SCORE=0

DISTANCE TO A SENSITIVE ENVIRONMENT

o DISTANCE TO 5 ACRE (MINIMUM) COASTAL WETLAND, IF 2 MILES OR LESS:

NA

o DISTANCE TO 5 ACRE (MINIMUM) FRESH WATER WETLAND, IF 1 MILE OR LESS:

NO OBSERVED AIR RELEASE

o DISTANCE TO CRITICAL HABITAT OF AN ENDANGERED SPECIES, IF 1 MILE OR LESS:

NONE REPORTED

SCORE=0

LAND USE

o DISTANCE TO COMMERCIAL/INDUSTRIAL AREA , IF 1 MILE OR LESS:

NO OBSERVED AIR RELEASE

o DISTANCE TO NATIONAL OR STATE PARK, FOREST, OR WILDLIFE RESERVE, IF 2 MILES OR LESS:

NO OBSERVED AIR RELEASE

o DISTANCE TO RESIDENTIAL AREA, IF 2 MILES OR LESS:

NO OBSERVED AIR RELEASE

o DISTANCE TO AGRICULTURAL LAND IN PRODUCTION WITHIN THE LAST 5 YEARS, IF 1 MILE OR LESS:

NO OBSERVED AIR RELEASE

o DISTANCE TO PRIME AGRICULTURAL LAND IN PRODUCTION WITHIN PAST YEARS, IF 2 MILES OR LESS:

NO OBSERVED AIR RELEASE

o IS A HISTORICAL OR LANDMARK SITE(NATIONAL REGISTER OR HISTORIC PLACES AND NATIONAL NATURAL LANDMARKS) WITHIN VIEW OF THE SITE?

NO

SCORE=0

FIRE AND EXPLOSION

1. CONTAINMENT

o HAZARDOUS SUBSTANCES PRESENT:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

o TYPE OF CONTAINMENT, IF APPLICABLE:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

2. WASTE CHARACTERISTICS

DIRECT EVIDENCE

o TYPE OF INSTRUMENT AND MEASUREMENTS:

NA

SCORE=0

IGNITABILITY

o COMPOUND USED

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

REACTIVITY

o MOST REACTIVE COMPOUND:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

INCOMPATIBILITY

o MOST INCOMPATIBLE PAIR OF COMPOUNDS:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

HAZARDOUS WASTE QUANTITY

o TOTAL QUANTITY OF HAZARDOUS SUBSTANCES AT THE FACILITY:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

o BASIS OF ESTIMATING AND/OR COMPUTING WASTE QUANTITY:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

3 TARGETS

DISTANCE TO NEAREST POPULATION

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

DISTANCE TO NEAREST BUILDING

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

DISTANCE TO SENSITIVE ENVIRONMENT

o DISTANCE TO WETLANDS

NO DOCUMENTED FIRE OR EXPLOSION THREAT

o DISTANCE TO CRITICAL HABITAT:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

LAND USE

o DISTANCE TO COMMERCIAL/INDUSTRIAL AREA

NO DOCUMENTED FIRE OR EXPLOSION THREAT

o DISTANCE TO NATIONAL OR STATE PARK, FOREST OF WILDLIFE RESERVE, IF 2 MILES OR LESS:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

o DISTANCE TO RESIDENTIAL AREA, IF 2 MILES OR LESS:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

o DISTANCE TO AGRICULTURAL LAND IN PRODUCTION WITHIN PAST 5 YEARS, IF 1 MILE OR LESS:

NO DOCUMENTED FIRE OR EXPLOSION THREAT

o DISTANCE TO PRIME AGRICULTURAL LAND IN PRODUCTION WITHIN PAST 5 YEARS, IF 2 MILES OR LESS

NO DOCUMENTED FIRE OR EXPLOSION THREAT

o IF A HISTORIC OR LANDMARK SITE (NATIONAL REGISTER OF HISTORIC PLACES AND NATIONAL NATURAL LANDMARKS) WITHIN VIEW OF THE SITE?

NO DOCUMENTED FIRE OR EXPLOSION THREAT
SCORE=0

POPULATION WITHIN 2 MILE RADIUS

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

BUILDINGS WITHIN A 2 MILE RADIUS

NO DOCUMENTED FIRE OR EXPLOSION THREAT

SCORE=0

DIRECT CONTACT

1. OBSERVED INCIDENT
o DATE, LOCATION AND PERTINENT DETAILS OF INCIDENT:

NONE
SCORE=0

2. ACCESSIBILITY
o DESCRIBE TYPE OF BARRIER(S):

SITE IS ONLY PARTIALLY FENCED, THE EASTERN SITE BOUNDARY HAS UNRESTRICTED ACCESS.

SCORE=3

3. CONTAINMENT
o TYPE OF CONTAINMENT, IF APPLICABLE:

NONE

SCORE=15

4. WASTE CHARACTERISTICS
TOXICITY

COMPOUND EVALUATED	TOXICITY
BENZENE	3
NAPHTHALENE	3
LEAD	3
METHYLNAPHTHALENE	1

o COMPOUND WITH HIGHEST SCORE:

BENZENE, NAPHTHALENE, LEAD (Ref. 3,6)

SCORE=3

5 TARGETS
POPULATION WITHIN 1 MILE RADIUS

18,908(Ref. 4)

SCORE=5

DISTANCE TO CRITICAL HABITAT (OF ENDANGERED SPECIES)

NONE REPORTED

SCORE=0

HRS REFERENCES

* 1. Versar Laboratories, Inc., 1990, Analytical Results. Included in Appendix G.

2. Calocerinos & Spina, May 1985, Harbor Point Property Land Investigations, Results of Extended Site Investigations, Step 3 Land Report, Niagara Mohawk Power Corporation.

3. USEPA, 1984, Uncontrolled Hazardous Waste Site Ranking System, A Users Manual (HW-10), United States Environmental Protection Agency.

4. URS Consultants, Inc., February 1990, NYSDEC Phase I Investigation of New York Emulsions Tar Products Site, #633031.

5. USGS Topographic Maps 1983, 7.5 Series: Utica East, New York, Quadrangle.

6. Sax, I., 1984. Dangerous Properties of Industrial Materials, Sixth Edition, Van Norstrand Reinhold, New York.

* Note: References included in this report.

Site Inspection Report

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D986866390

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
N.Y. Emulsions Tar Products	Washington Street

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Utica	NY	13501	Oneida		

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
43° 06' 37"	75° 15' 38"	X A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
5 / 30 / 90 (MONTH DAY YEAR)	☐ ACTIVE ☒ INACTIVE	1926 (BEGINNING YEAR) / 1983 (ENDING YEAR) ☐ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR (Name of firm)
☒ E. STATE ☒ F. STATE CONTRACTOR URS Consultants, Inc (Name of firm) ☐ G. OTHER (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO
Scott Swanson	Geologist	URS	(716) 883-5525
09 OTHER INSPECTORS Bob Kreuzer	10 TITLE Geologist	11 ORGANIZATION URS	12 TELEPHONE NO (716) 883-5525
William Shaw	Engineering Geologist	NYSDEC	(518) 4579538
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Bill Fowlston	Environmental Manager	New Hartford, NY	(315) 735-8501
Bert Glazier	Superintendent	New Hartford, NY	(315) 735-8501
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
X PERMISSION ☐ WARRANT	4:15 PM	Sunny 65°

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO
Phyllis Rettke	URS Consultants, Inc.	(716) 856-5636

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
same				5 / 30 / 90 (MONTH DAY YEAR)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D986866390

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER oils and tars (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS unknown

CUBIC YARDS

NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

- [X] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [X] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [X] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	unknown		tar
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
VOC	Benzene	71432	Unknown	Unknown	
VOC	Toluene	108883	Unknown	Unknown	
VOC	Ethylbenzene	100414	Unknown	Unknown	
VOC	Total Xylenes		Unknown	Unknown	
SEMI	Naphthalene	91203	Unknown	Unknown	
SEMI	2-Methylnaphthalene	91576	Unknown	Unknown	
SEMI	Acenaphthylene	208968	Unknown	Unknown	
SEMI	Dibenzofuran	208968	Unknown	Unknown	
SEMI	Numerous PAH's		Unknown	Unknown	
PST	Numerous Pesticides		Unknown	Unknown	
PCB	Arochlor-1254	11097691	Unknown	Unknown	

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

URS field investigation, 1990.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D986866390

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 0
02 ☒ OBSERVED (DATE: 1990) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Population in the vicinity of the site is supplied with water from a municipal water supply board. Groundwater has the potential to enter Utica Harbor.

01 ☒ B SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Potential for surface water contamination via storm sewer in the area that discharges to the Mohawk River/ Utica Harbor system.

01 ☐ C CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported

01 ☐ D FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Not likely on this site-all tanks and buildings have been removed.

01 ☒ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: 18,908
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Population within a 1 mile radius of the site. Site is fenced on three sides.

01 ☒ F CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 3 (Acres)
02 ☒ OBSERVED (DATE: 1990) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Contaminated soil was observed onsite. Soils contaminated by oils and tars were visually identified at depths from 0-16 feet during drilling. Contamination was confirmed at depths of 1.5-10 feet by analytical testing.

01 ☐ G DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Population of the city of Utica is served by a municipal water supply with a reservoir more than 3 miles upgradient of the site.

01 ☐ H WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported-site is closed.

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 80,232
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Population within a 3 mile radius of the site.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D986866390

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported

01 ☒ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

Contaminated groundwater from the site may be migrating to Utica Harbor and the Mohawk River. Any release of contaminated groundwater into the Harbor has the potential to damage the fauna within the Harbor.

01 ☒ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Contaminated groundwater from the site may be migrating to Utica Harbor and the Mohawk River. Aquatic life(fish) may be adversely sffected by potential discharge to Utica Harbor.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills Runoff Standing liquids Leaking drums) — 02 ☒ OBSERVED (DATE: 5/90&8/90) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 18,946 — 04 NARRATIVE DESCRIPTION

Tar observed oozing from the ground surface. Population within 1 mile radius of the site.

01 ☒ N DAMAGE TO OFFSITE PROPERTY — 02 ☒ OBSERVED (DATE: 11/29/84) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Tar was observed in areas beyond the site perimeter. Two samples were collected by NYSDEC.

01 ☒ O CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

High potential due to infiltration of groundwater.

01 ☐ P ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 80,232 people = population within a 3 mile radius of the site

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references e g state files sample analysis, reports)

NYSDEC files
NYSDEC 1990, Phase I of NY Emulsions Tar Products

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D986866390

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☒ I. OTHER (Specify) SPDES	0007391	8/1/86	8/1/91	from onsite lagoon
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND	140 ±	removed
☒ D. TANK, ABOVE GROUND	have been removed	
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☒ I. OTHER (Specify) Lagoon	filled in	

04 TREATMENT (Check all that apply)
- ☐ A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER
- ☐ A. BUILDINGS ON SITE

06 AREA OF SITE
3 (Acres)

07 COMMENTS

NYSDEC site inspection of 10/4/89 reports that the facility was in compliance of SPDES regulations.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☒ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Site has been cleared, all drums, tanks and buildings have been removed or dismantled.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☒ YES ☐ NO

02 COMMENTS

Tar has been observed on the surface, the site is partially fenced.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

NYSDEC Region 6 files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D986866390

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☒	B. ☐
NON-COMMUNITY	C. ☐	D. ☐

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☐
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE

A. >3 (mi)

B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 0

03 DISTANCE TO NEAREST DRINKING WATER WELL 2.8 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
<1 (ft)	east	<1 (ft)	unknown (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

A dug well is located on the Monarch Chemicals property adjacent to the site. No well construction details are available. Approximately 120 residential wells are located in the Towns of Marcy and Deerfield. Theese are located upgradient from the site. There is no information concerning the aquifer tapped by these wells. In addition, there are no well logs or construction details available for these wells.

10 RECHARGE AREA

XX ☒ YES ☐ NO

COMMENTS: Groundwater mounding beneath site inducates it is a recharge area.

11 DISCHARGE AREA

☐ YES ☒ NO

Utica Harbor is a local shallow groundwater discharge point.

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Utica Harbor	☐	0.2 (mi)
Mohawk River	☐	0.2 (mi)
NYS Barge Canal	☐	0.2 (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 18,908 NO OF PERSONS	B. 49,604 NO OF PERSONS	C. 80,232 NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION

.05 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

13,341

04 DISTANCE TO NEAREST OFF-SITE BUILDING

0.5 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The site is in an industrial area of the City of Utica. The urban area of the City of Utica is directly south of the site.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D986866390

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. 10^{-6} - 10^{-8} cm/sec ☐ B. 10^{-4} - 10^{-6} cm/sec ☒ C. 10^{-4} - 10^{-3} cm/sec ☐ D GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
± 85 (ft)	>16 (ft)	unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
14.2 (in)	2.3 (in)	0.5 %	northeast	2 %

09 FLOOD POTENTIAL

SITE IS IN 100 YEAR FLOODPLAIN

10

☒ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. NA (mi)	B. 0.23 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (mi)

ENDANGERED SPECIES: None reported

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS, NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 0.05 (mi)	B. 0.36 (mi)	C. >2 (mi)	D. >1 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The New York Emulsions site is relatively flat and less than 10 feet above the Utica Harbor-Mohawk River system. The site is located on the Harbor Point property and is bounded by Washington Street and Mohawk Valley Oil on the east, Niagara Mohawk on the north, Monarch Chemical Co. on the southeast and sparsely vegetated vacant land to the south and west. At the time of the inspection, no tanks or other structures were onsite. The surface of the site consists of well graded gravels and sands and numerous tarry pools were observed scattered across the parcel. Most of the perimeter of the site is fenced. The easternmost property line along Washington Street, however, is unfenced .

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

URS Consultants, Inc. - Site inspection, 5/30/90 and field investigation 8/90.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D986866390

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	5	Versar	1990
SURFACE WATER	1	Versar	1990
WASTE	1	Versar	1990
AIR			
RUNOFF			
SPILL			
SOIL	6	Versar	1990
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNu	HNu respons(soil samples) ranged from 2 to 63 ppm. Headspace in monitoring wells ranged from 0 to16.5 ppm, 8/90.

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF URS Consultants, Inc. 282 Delaware Ave, Bflo., NY 14202
(Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS URS Consultants, Inc.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Water levels were obtained from monitoring wells. This data is contained in the Phase II report from URS Consultants, Inc.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. State files, sample analysis, reports)

URS field investigation, 8/90

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D986866390

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Suit Kote		P.O. Box 5160		Cortland	NY	13045

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Koppers (formerly American Tar Products)		Washington Street		Utica	NY	13501
Utica Gas and Electric		unknown				
Davies Family		unknown				

IV. REALTY OWNER(S) (If applicable, list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D986866390

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION	09 NAME OF OWNER
None - site is vacant								Suit-Kote

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
Suit-Kote		P.O. Box 5160		Cortland	NY	13045	1977-1983	
(formerly Koppers American Tar Products)				Pittsburg	PA		1926-1977	
Utica Gas and Electric		unknown					1923-1926	

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NYSDEC Region 6 files

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D986866390

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Koppers & Suit-Kote	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

Niagara Mohawk produced coal gas at their Harbor Point facility. Koppers utilized the coal gas residue to produce pitch, creosote and road tar. Suit-Kote operated the emulsions plant for several years. Operations ceased in 1983.

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

NYSDEC, 1990, Phase I Investigation of the N.Y. Emulsions Tar site.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE: NY | 02 SITE NUMBER: D9868866390

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ D. SPILLED MATERIAL REMOVED
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ E. CONTAMINATED SOIL REMOVED
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ F. WASTE REPACKAGED
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☒ G. WASTE DISPOSED ELSEWHERE
04 DESCRIPTION Electrical transformers and their contents as well as onsite tanks and associated asbestos insulation were disposed of offstie.
02 DATE ~~1987-1990~~ 03 AGENCY ~~Suit Kote~~

01 ☐ H. ON SITE BURIAL
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ I. IN SITU CHEMICAL TREATMENT
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ J. IN SITU BIOLOGICAL TREATMENT
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ K. IN SITU PHYSICAL TREATMENT
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ L. ENCAPSULATION
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ M. EMERGENCY WASTE TREATMENT
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ N. CUTOFF WALLS
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ P. CUTOFF TRENCHES/SUMP
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

01 ☐ Q. SUBSURFACE CUTOFF WALL
04 DESCRIPTION
02 DATE _____ 03 AGENCY _____

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 986866390

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING
02 DATE ~~1990~~ 03 AGENCY ~~Suit Kote~~
04 DESCRIPTION
Site was graded with clean sand and gravel fill.

01 ☐ T. BULK TANKAGE REPAIRED
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED
02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☒ 3. OTHER REMEDIAL ACTIVITIES
02 DATE _____ 03 AGENCY Suit-Kote
04 DESCRIPTION
Suit-Kote removed all tanks, some covered with asbestos insulation, approximately 140 drums, some transformers as well as filling in the lagoon. All onsite buildings have been removed and the site is level, covered with gravel and partially fenced.

III. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sampling analysis, reports)

URS field investigation, 1990.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D986866390

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

None.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

GENERAL REFERENCES

7. NYSDEC, 1990, Phase II (Fourth Round) Work Plan, New York Emulsions Tar Products Site.

8. URS Consultants, Inc., August 1990, Phase II (Fourth Round) Quality Assurance/Quality Control Plan, New York Emulsions Tar Products Site.

9. URS Consultants, Inc., June 1990, Health and Safety Plan, New York Emulsions Tar Products Site.

10. Calocerinos & Spina, August 1984, Harbor Point Property Land Investigations, Results of Initial Survey, Step 2 Land Report, Niagara Mohawk Power Corporation.

11. Calocerinos & Spina, March 1984, Harbor Point Property Land Investigations, Proposal for Initial Site Survey, Step 1 Land Report, Niagara Mohawk Power Corporation.

12. Calocerinos & Spina, March 1984, Harbor Point Property: The Mohawk River, Proposal for Initial Survey, Niagara Mohawk Power Corporation.

13. Calocerinos & Spina, September 1984, Harbor Point Property: The Mohawk River, Results of Initial River Study, Step 2 River Report, Niagara Mohawk Power Corporation.

14. NYSDEC, May 1988/November 1988, Technical/Administrative Guidance Memorandums, "Guidelines for Exploratory Boring, Monitoring Wells Installation, and Documentation of These Activities."

15. NYSDEC, September 1989, Analytical Services Protocol, Volumes, 1-8.

* Note: References included in this report.

16. USEPA, November 1986, Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Volumes 1A-C.

17. URS Consultants, Inc., March 1990, NYSDEC Phase I Investigation of Monarch Chemical Site, #633030.

18. NYS Secretary of State, 1967. Official Compilation of Codes, Rules and Regulations of the State of New York, Conservation Volume D.

19. Van Diver, Bradford B., 1985, Roadside Geology of New York. Missoula, Mont.: Mountain Press, 411 pp.

20. Van Diver, Bradford B., 1980, Field Guide, Upstate New York. Dubuque, Iowa, Kendall/Hunt, 276 pp.

21. Schacklette, H.T. and Boerngen, J.E., 1984, Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States: USGS Professional Paper 1270, 10pp.

*22. NYSDEC, 1987, Additions/Changes to Registry of Inactive Hazardous Waste Disposal Sites: New York Emulsions Tar Products Site.

*23. Bill Fowlston, Suite-Kote Corp., to Martin Brand, NYSDEC, July 8, 1988.

*24. Darrell Sweredoski, NYSDEC, to Martin Brand, NYSDEC, October 31, 1988.

*25. Craig Weil, NYSDEC, to Darrell Sweredoski, NYSDEC, March 6, 1990.

*26. Russ LaGalbo, Utica Board of Water Supply, June 5, 1991. Personal Communication with Phyllis Rettke of URS Consultants, Inc., RE: Leaking municipal water line along Washington Street.

* Note: References included in this report.

*27. Debbie Day, City of Utica Engineering Department, June 10, 1991. Personal Communication with Phyllis Rettke of URS Consultants, Inc., RE: Floodplain Information of New York Emulsions Tar Products site.

28. USEPA, September 1984, Health Effects Assessment for Polycyclic Aromatic Hydrocarbons; Document PB86-134244.

*29. Russ LoGalbo, Utica Board of Water Supply, to Martin Brand, NYSDEC, August 30, 1991.

* Note: References included in this report.

Sent to R/6 on 3/10

(22)

Add X
Modify ____
Reclassify ____
Delist ____

ADDITIONS/CHANGES TO REGISTRY OF
INACTIVE HAZARDOUS WASTE DISPOSAL SITES

Site Name New York Emulsions Tar Products DEC ID Number 633031
Site Address Washington St., Utica County Oneida

X Add New Site: (Potential Hazardous Waste Site Summary Form, EPA Preliminary Assessment Form and Registry Form must be completed and attached)

___ Modify data as follows: [Class 2a]

___ Reclassify from class ___ to class ___
Justification:

___ Delist:
Justification:

Prepared by: Darrel S. Date: 3/9/87

Approved by:

Regional Hazardous Waste Engineer: _____ Date: _____

Robert Olazagasti, Supervisor _____ Date: _____

Charles Goddard, Bureau Chief _____ Date: _____

cc: Region
Department of Health

DRAFT

SUBJECT TO REVISION
NOT FOR EXTERNAL RELEASE

New York State
Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION SUMMARY REPORT

New York Emulsions Tar Products
Site Name

DEC Site ID Number
(Registry Sites Only)

Washington Street, Utica, Oneida Co.
Address/County

Date of Visit

SITE DESCRIPTION

distribution center for tar emulsions; groundwater in vicinity of the site contaminated with benzene and naphthalene

RECOMMENDED ACTION

Phase I & II

PRIORITY FOR FURTHER ACTION

High ____ Medium X Low ____

ADD TO REGISTRY

X Yes ____ No 2a Suggested Classification

JUSTIFICATION (yes or no)

RI completed by Niagara Mohawk Power Corp. indicate groundwater contaminates may be originating from the site

Prepared by: Darrell Swereda
of DEC

Date: Nov 21, 1986

(22)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE
INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

RECEIVED
DEC 1 1986
BUREAU OF HAZARDOUS SITE CONTROL
DIVISION OF SOLID AND HAZARDOUS WASTE

CLASSIFICATION CODE: 2a REGION: 6 SITE CODE: _____

NAME OF SITE : New York Emulsions Tar Products
STREET ADDRESS: Washington Street
TOWN/CITY: Utica COUNTY: Oneida ZIP #: 13502

SITE TYPE:
Open Dump-__Structure-X Lagoon-__Landfill-__Treatment Pond-__
ESTIMATED SIZE: 3.5 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Suit-Kote Corp
CURRENT OWNER ADDRESS.: Washington St., Utica
OWNER(S) DURING USE...: same
OPERATOR DURING USE...: same
OPERATOR ADDRESS.....: same
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From _____ To ___

SITE DESCRIPTION:

This is a distribution center for tar emulsions. The site consists of numerous tanks and associated piping. A remedial investigation completed by Niagara Mohawk Power Corp. indicates that this site may be a source of naphthalene and benzene contamination in the groundwater. This facility is no longer operating.

HAZARDOUS WASTE DISPOSED: Confirmed-___ Suspected-__

TYPE	QUANTITY (units)
naphthalene	unknown
benzene	

SITE CODE:_____

ANALYTICAL DATA AVAILABLE:

Air-__Surface Water-__Groundwater-X Soil-__Sediment-__None-__ .

CONTRAVENTION OF STANDARDS:

Groundwater-X Drinking Water-__Surface Water-__Air-__

LEGAL ACTION:

TYPE:State-X Federal-__
STATUS:In Progress-X Completed-__

REMEDIAL ACTION:

Proposed-X Under Design-__In Progress-__Completed-__
NATURE OF ACTION:_____

GEOTECHNICAL INFORMATION:
SOIL TYPE: Fluvial deposits, glaciolacustrine deposits and glacial till.
GROUNDWATER DEPTH: 1-9 ft

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

- groundwater contamination

ASSESSMENT OF HEALTH PROBLEMS:

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION	NEW YORK STATE DEPARTMENT OF HEALTH
NAME: Darrell Sweredoski	NAME:
TITLE: Senior Sanitary Eng.	TITLE:
NAME:	NAME:
TITLE:	TITLE:
DATE: Nov. 21, 1986	DATE:

Preliminary Assessment

(22)

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: XXXXX | 02 SITE NUMBER:

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common or descriptive name of site): New York Emulsions Tar Products
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: Washington Street
03 CITY: Utica
04 STATE: N.Y.
05 ZIP CODE: 13501
06 COUNTY: Oneida
07 COUNTY CODE:
08 CONG DIST:
09 COORDINATES: LATITUDE 43 06 35. | LONGITUDE 75 13 35.
10 DIRECTIONS TO SITE (Starting from nearest public road): west of North Genesee St, next to Utica Harbor

III. RESPONSIBLE PARTIES

01 OWNER (If known): Suit-Kote Corp.
02 STREET (Business, mailing, residential): Washington St.
03 CITY: Utica
04 STATE: N.Y.
05 ZIP CODE: 13501
06 TELEPHONE NUMBER: ( )
07 OPERATOR (If known and different from owner):
08 STREET (Business, mailing, residential):
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )
13 TYPE OF OWNERSHIP (Check one): [X] A. PRIVATE ☐ B. FEDERAL ________ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ________ (Specify) ☐ G. UNKNOWN
14 OWNER/OPERATOR NOTIFICATION ON FILE: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION: ☐ YES DATE __/__/__ (MONTH DAY YEAR) ☐ NO
BY (Check all that apply): ☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR ☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER ________ (Specify)
CONTRACTOR NAME(S):
02 SITE STATUS (Check one): ☐ A. ACTIVE [X] B. INACTIVE ☐ C. UNKNOWN
03 YEARS OF OPERATION: ____ BEGINNING YEAR ____ ENDING YEAR [X] UNKNOWN
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED: benzene and naphthalene
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION:

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) [X] B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Darrell Sweredoski
02 OF (Agency/Organization): NYS DEC, Watertown
03 TELEPHONE NUMBER: (315) 785-2522
04 PERSON RESPONSIBLE FOR ASSESSMENT: same
05 AGENCY:
06 ORGANIZATION:
07 TELEPHONE NUMBER: ( )
08 DATE: __/__/__ (MONTH DAY YEAR)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
XXXX	

II WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

A SOLID
B POWDER FINES
C SLUDGE
D OTHER _____ (Specify)
E SLURRY
F LIQUID
G GAS

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS _____
NO OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

A TOXIC
B CORROSIVE
C RADIOACTIVE
D PERSISTENT
E SOLUBLE
F INFECTIOUS
G FLAMMABLE
H IGNITABLE
I HIGHLY VOLATILE
J EXPLOSIVE
K REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	—	—	benzene & naphthalene
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS		
FDS		
FDS		
FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports.)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: XXXX | 02 SITE NUMBER:

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A GROUNDWATER CONTAMINATION — 02 X OBSERVED (DATE _____) ☐ POTENTIAL X ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

benzene and naphthalene documented

01 X B SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

strong potential for surface water contamination via storm sewer in area

01 X C CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

some potential exists

01 ☐ D FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

not likely

01 ☐ E DIRECT CONTACT — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

not likely on site

01 X F CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED _____ (ACRES) 04 NARRATIVE DESCRIPTION

strong potential exists

01 ☐ G DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

potable water supplies unknown

01 ☐ H WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

not likely

01 ☐ I POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

potential for exposure in surface waters (Mohawk River)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: XXXX | 02 SITE NUMBER:

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
unknown

01 ☐ K DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include names of species)
unknown

01 ☐ L CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
unknown

01 ☒ M UNSTABLE CONTAINMENT OF WASTES — 02 ☐ OBSERVED (DATE _____) ☒ POTENTIAL ☐ ALLEGED
(Spills, runoff, standing liquids, leaking drums)
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
high potential for contaminate migration

01 ☐ N DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
unknown

01 ☒ O CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
high potential due to infiltration of groundwater

01 ☐ P ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS
Niagara Mohawk Power Corp. has completed an RI in the area which indicates that this site may be a source of groundwater contamination

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling reports)
Niagara Mohawk RI March 1985
Harbor Point Property

EPA FORM 2070-12 (7-81)

Suit-Kote Corporation

Doing business as Central Asphalt, Cortland Asphalt Products, New York Emulsions, Northern Asphalt, and Western Bituminous Products.

1911 Lorings Crossing Road
P.O. Box 5160
Cortland, N.Y. 13045-5160

(23)

July 8, 1988

RE[illegible]

JUL 1 1 [illegible]

Mr. Martin Brandt
Bureau of Hazardous Site Control
N.Y.S.D.E.C.
50 Wolf Road
Albany, NY 12233-1010

Dear Martin:

This letter is to inform you and the department as to our progress at Harbor Point. Beginning Monday, November 9, 1987, we had two men from our New Hartford location begin a general housekeeping of the site in general. During the two months of work, at least 25 "roll off" bodies were loaded and removed. The 55 gallon drums contained material that could be used at the Cortland location, so they were hauled to Cortland.

In March, we let a contact to ACEM for the removal of the transformers in question. They drained the oil and transported it from our yard. The tanks were cleaned and sent to scrap.

In May, we let another contract to ACEM for the asbestos abatement. The job actually started on June 6, 1988, when Environmental Protection Services (subcontractor) moved in and began setting up staging. They kept another agency on hand, who constantly did the air monitoring. Before removing the frame work from around each tank, they sprayed the tank. The job was completed by July 2, 1988.

We now have a buyer for some of the asphalt tanks in the yard and expect to move on this soon.

As our summer season winds down this fall, we will have our people continue cleaning up the site.

I am anxious to meet with someone from your department at the site.

Sincerely,

Bill Fowlston

Bill Fowlston
Director of Safety and Environment

BF/dr

~~Dept~~ FYI / file (24)

New York State Department of Environmental Conservation

MEMORANDUM RECEIVED 633031

NOV 1988

TO: Martin Brand
FROM: Darrell Sweredoski
SUBJECT: NEW YORK EMULSIONS
DATE: October 31, 1988

On this date Bill Fouleston from Suit-Kote Corporation called me regarding the above site. Bill said that they have removed all the transformers, the asbestos material has been removed, pipe is being dismantled, and the buildings are being torn down. Bill said that his company has done considerable amount of work in the last few months in cleaning the site up, and he asked me what our requirements are to "finish cleaning it up". I told Bill that we had no clean up criteria at this time, we were just starting our Phase II investigation. Depending on the outcome of that work, the site would either go into a remedial stage or reclassified. Any clean up criteria would be established then or as a result of remedial investigation. I advised Bill that any work they do on the site must be done with proper permits and authorization.

Bill also mentioned that there was a broken water main in front of their property and the streets are usually flooded. I advised him to call the City water department with that information.

Darrell M. Sweredoski, P.E.
Hazardous Waste Remediation
Region 6

DMS:kw

NY Emulsions

(25)

New York State Department of Environmental Conservation

MEMORANDUM

TO: Darrell Sweredoski
FROM: Craig Weil
SUBJECT: Fires at New York Emulsions Tar Products

DATE: March 6, 1990

On March 5, I was contacted by Pete Irving, Fire Marshal, concerning the above-referenced subject. He told me that Jordan Recycling of Liverpool was doing some tank cutting last week at the facility with torches, and on Wednesday a fire broke out. The fire was accompanied by some green and orange smoke and some noxious fumes which caused problems in fighting the fire. After the fire was out Jordan Recycling started working again, and two days later another fire broke out in one of the tanks. This fire was also accompanied by the smoke and the noxious fumes. Due to these complications, the fire fighters did not attempt to get real close to the burning tank. At that time an employee from Jordan was working near the tank and the fire fighters tried to warn him to get out of the area. He did not respond to the warnings, and he proceeded to move the tank with a bulldozer and pushed it in a pond nearby, which put out the fire. Later that day a woman working in a nearby factory called Pete Irving complaining of respiratory problems. Pete was not sure if her problem was due to the smoke and fumes from the fires or not. Jordan is still doing tank cutting work, but are not using any torches at this time.

The on-site manager for Jordan Recycling is William Ross, and his supervisor is John Easton. This company is out of Liverpool and its phone number is (315) 457-5105. There is also a safety and health company on-site, Suit-Kote Corporation. Suite-Kote on-site person is William Fowlfton, whose work phone is (607) 753-1100 and home phone (607) 843-5571.

Pete Irving would like some information on this situation if possible; he can be contacted at (315) 724-5151, and if you need any more information you should contact Pete also.

Craig A. Weil
Chemical Engineer
Region 6 - Utica

CAW:dal

(26)

URS

AN INTERNATIONAL PROFESSIONAL SERVICES ORGANI

JOB NO. 35231 JOB NAME NY Emulsions

MEMO OF TELECON

DATE 6/5/91 TELEPHONE 315-792-0327

PERSON CALLING Phyllis Rettke PERSON CALLED Russ LaGalbo

REPRESENTING URS REPRESENTING Principal Engineer - Utica Bd. of H2O Supply

PURPOSE OF TELECON AND/OR EQUIPMENT INVOLVED:

TEXT OF TELECON

Leaking water line on Washington Street was repaired sometime in 1990 - he believes it was in the spring.

cc:

URS
AN INTERNATIONAL PROFESSIONAL SERVICES ORGANIZAT

JOB NO. 35231 JOB NAME NY Emulsions

MEMO OF TELECON

DATE 6/10/91 TELEPHONE 315-792-0512
PERSON CALLING Phyllis Pilcher PERSON CALLED Deb. Day
REPRESENTING URS REPRESENTING City of Utica Engineering Dept
PURPOSE OF TELECON AND/OR EQUIPMENT INVOLVED:

TEXT OF TELECON

Site is within the 100 year flood boundary

Ref. Floodway Map - FEMA
Sheet # 3605580001

CC:

Board of Water Supply

City of Utica

ONE KENNEDY PLAZA • POST OFFICE BOX 345 • UTICA, NEW YORK 13503

TELEPHONE (315) 792-0301

(29)

- 4 -

August 30, 1991

Mr. Martin Brand
Senior Engineering Geologist
NYS DEC
50 Wolf Road
Albany, NY 12233

Re: Water Main Repair
Harbor Point
Utica, New York

Dear Mr. Brand:

In accordance with our telephone conversation of August 28th, please be advised that the Utica Board of Water Supply will be repairing a leaking water connection within Washington Street at the referenced site. The area of repair is in front of the abandoned asphalt emulsions plant.

We intend to open an excavation about five (5) feet deep with gradual sloping walls to facilitate maximum ventilation, which will be assisted by fans to maintain an adequate fresh air supply. Protective coveralls, rubber boots and gloves will be provided our personnel and respirators will be used if deemed appropriate. All excavated material will be replaced in the excavation after the repair is completed, which should take less than an hour once the excavation is completed.

If you have any questions, please feel free to contact me at Tel. (315) 792-0320.

Very truly yours,

Russell S. LoGalbo, P.E.
Principal Engineer

RSL/sdw

cc: Robert M. Pierce
John Inman

APPENDIX A

GEOPHYSICAL REPORT - RESULTS OF NEW YORK EMULSIONS TAR PRODUCTS SITE

GEOPHYSICAL INVESTIGATION

UTICA CITY DUMP, MONARCH CHEMICAL NEW YORK EMULSIONS AND MOHAWK VALLEY OIL PROPERTIES

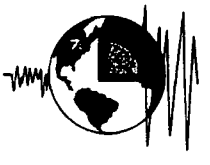
Utica, New York

Prepared for

URS CONSULTANTS
Buffalo, New York

August 1990

Weston Geophysical
CORPORATION



Weston Geophysical
CORPORATION

August 16, 1990

Mr. James Lanzo
URS Consultants
570 Delaware Avenue
Buffalo, New York 14202-1207

Subject: Geophysical Survey Results
Monarch Chemical, Utica City Dump,
New York Emulsion, and Mohawk Valley Oil Sites
Utica, New York

Dear Mr. Lanzo:

In accordance with your authorization, Weston Geophysical conducted magnetometry and electromagnetic terrain conductivity surveys at four sites in Utica, New York. The purpose of the investigation was to assist in locating buried utilities and other possible subsurface obstacles prior to the emplacement of monitoring wells by URS Consultants. This report summarizes the field program and findings at each site.

We appreciate the opportunity to provide geophysical services to URS Consultants, and will be pleased to provide any additional information that you may require.

Sincerely,

WESTON GEOPHYSICAL CORPORATION

Doria L. Kutrubes dg.
Doria L. Kutrubes
Geophysicist

M. Blackey
Mark Blackey
Manager, Geophysical Services

3586J
18021-03

Lyons Street, Box 550, Westboro MA 01581-0550, Tel (508)366-9191, FAX (508)366-9197, Telex No. 920491

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SECTION 1
INTRODUCTION

Geophysical surveys were conducted by Weston Geophysical Corporation between June 25–28, 1990, at four Utica, New York Sites. Magnetometry and electromagnetic terrain conductivity methods were used to locate buried utilities and other subsurface obstructions to assist the safe emplacement of monitoring wells by others.

LOCATION AND SURVEY CONTROL

Plan maps showing cultural features and geophysical coverage at each site are provided on Figures 2, 5, and 13. Base maps for each of those figures were supplied by URS Consultants or the New York State Department of Environmental Conservation (NYSDEC).

Geophysical survey lines at the Monarch Chemical Site (Figure 2) were positioned with taped measurements referenced to the west and north fences. Survey lines were established along a ten–foot grid, and the location of the magnetic base station marked on the pavement with spray paint for future reference. Magnetic stations were spaced every 20 feet and were offset by 10–foot intervals on adjacent traverses. EM–31 stations were spaced every 5 feet along all traverses.

Proposed monitoring well locations at the Utica City dump, New York Emulsions, and Mohawk Valley Oil sites were examined using EM–31 and magnetometry methods. Wells were centered in a 20 by 20 foot survey grid, with survey lines spaced at two–foot intervals. EM–31 or magnetic data were acquired every two feet along these survey lines.

GEOPHYSICAL METHODS OF INVESTIGATION

Magnetometry Survey Method

A digital Geometrics total-field proton precession magnetometer was used to acquire magnetic data. Metal objects, such as utility pipes or cables, steel drums, or other ferrous iron objects, cause perturbations in the earth's magnetic field which are detectable by this instrumentation. Appendix A describes the magnetometry method in greater detail.

EM-31 Survey Method

A Geonics model EM-31 terrain conductivity meter was used to acquire conductivity data. This electromagnetic (EM) induction instrument measures the electrical conductivity of soil, water, or other materials at depths to 15-20 feet. Metal objects and buried utilities may cause an abrupt change in conductivity values and a reversal in polarity (negative conductivity values) in the immediate vicinity of the object. The terrain conductivity method of investigation is described in greater detail in Appendix B.

SECTION 2
RESULTS

A summary of recommendations regarding placement of monitoring wells is provided as Table 1. Specific comments regarding each site are provided in the sections below.

Monarch Chemical Site

Magnetometry and EM-31 conductivity results are summarized on contour maps provided as Figures 3 and 4. Anomalous magnetic and conductivity readings were observed adjacent to metal fences, steel buildings, trucks, and overhead wires. With the exception of the southeast corner of the site (i.e. south of Station 1+00S), evidence of buried metallic objects was not found. South of Station 1+00S, magnetic and conductivity data indicate an area of buried metallic objects: no above-ground cultural features were observed which could cause the anomalies shown on Figures 3 and 4. Metallic debris, such as partially buried fences, rebar, etc., were observed protruding from the ground surface in the vicinity of this anomalous area.

In addition to the EM conductivity and magnetometry surveys conducted throughout the Monarch Chemical site, each proposed well was examined in further detail by rotating the EM-31 instrument through a 360-degree sweep and observing conductivity variations during that rotation. With the exception of MW-3, which is located south of Station 1+00S, all other wells appear to be in areas free of buried metal objects. Results of the monitoring well examinations are summarized in Table 1.

New York Emulsions and Mohawk Valley Oil Sites

Magnetic and conductivity data acquired around thirteen proposed well locations at these sites indicate that portions of the fill materials are most likely composed of coal cinders which may contain electrically-conductive materials such as metals. Examination of borings Soil-1 and Soil-2, and wells SC-2 and SC-3 were unaffected by the fill conditions; recommendations regarding those locations (see Table 1) thus have a high degree of confidence.

Geophysical data from the remaining locations (Soil-4, SC-4, SC- 5, SC-6, SC-7, SC-8, SC-9, and SC-10) were influenced by the high-conductivity fill materials. Conductivity values of several hundreds of millimhos per meter (mmhos/m) caused by the conductive fill alone can easily disguise anomalies caused by buried utilities or other objects. For this reason, we have qualified our recommendations regarding safe placement of these wells (see "question marks" accompanying recommendations on Table 1).

Well SC-4 (Figure 9) is proposed for an area with conductivity variations between -50 and +450 mmhos/m. Although these conductivity values may be due in part to the nearby chain link fence and the conductive soil conditions noted above, we cannot recommend any portion of the area surveyed as being free of buried objects or utility pipes/cables.

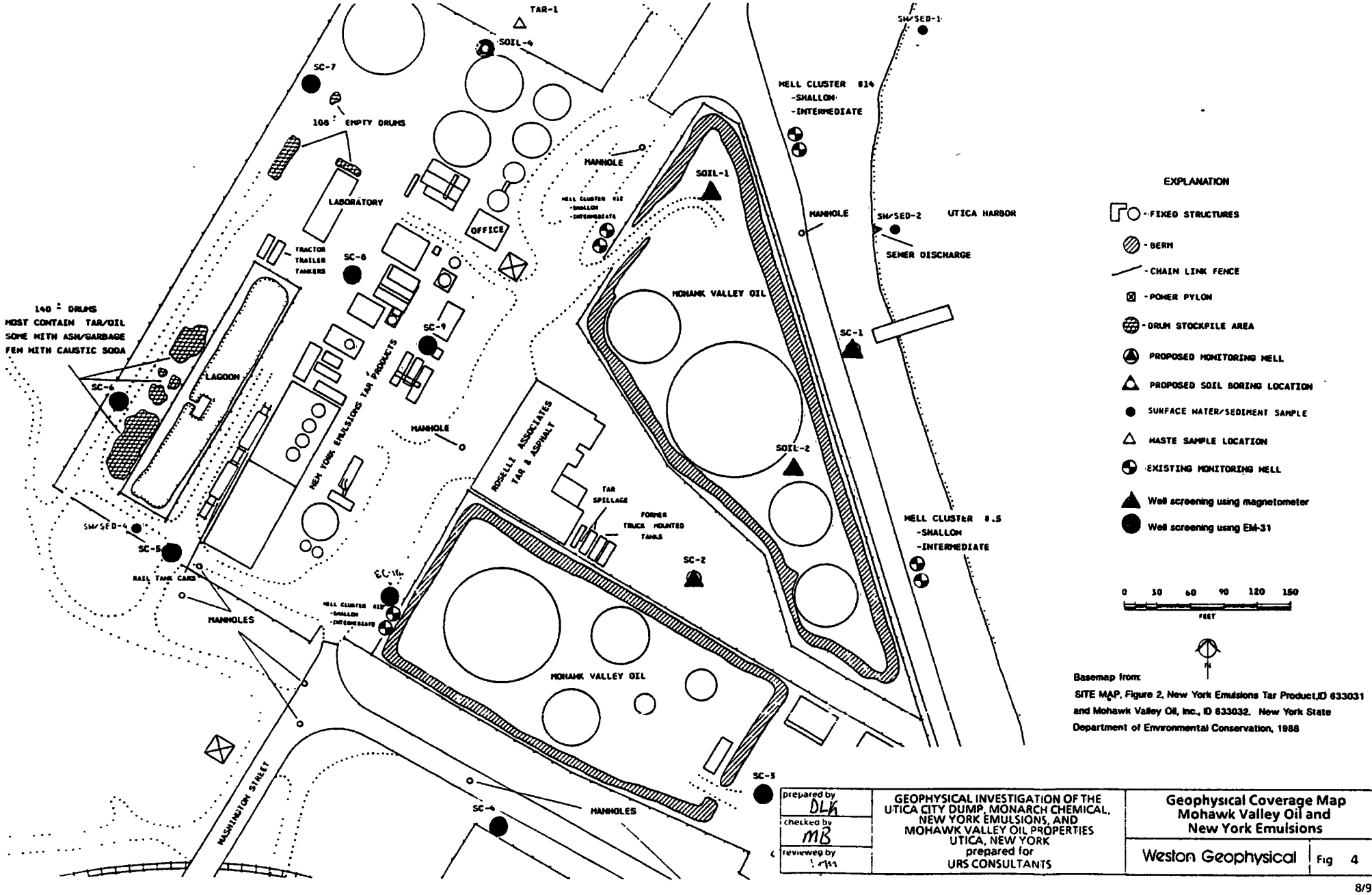
Similarly, wells SC-5, SC-6, SC-7, SC-9, and SC-10 are proposed for areas with widely varying conductivity values. Although some of those anomalies may be related to above-ground metal objects or the conductive fill materials, we cannot recommend drilling locations likely to be free of buried objects on the basis of these limited data sets.

Utica City Dump

One proposed monitoring well location at the Utica City Dump, MW- 1, was examined using a magnetometer. A contour map of that data is provided as Figure 1. High magnetic values are present southwest of MW-1's proposed location; the well is located in an area of steep magnetic gradients indicative of ferrous metal objects.

The source of the high magnetic values (and the steep magnetic gradient) is probably located near the west edge of the survey grid (near Line 0+10E, Station 0+10N); the proposed location of MW-1 should thus adequately avoid that anomaly source.

FIGURES

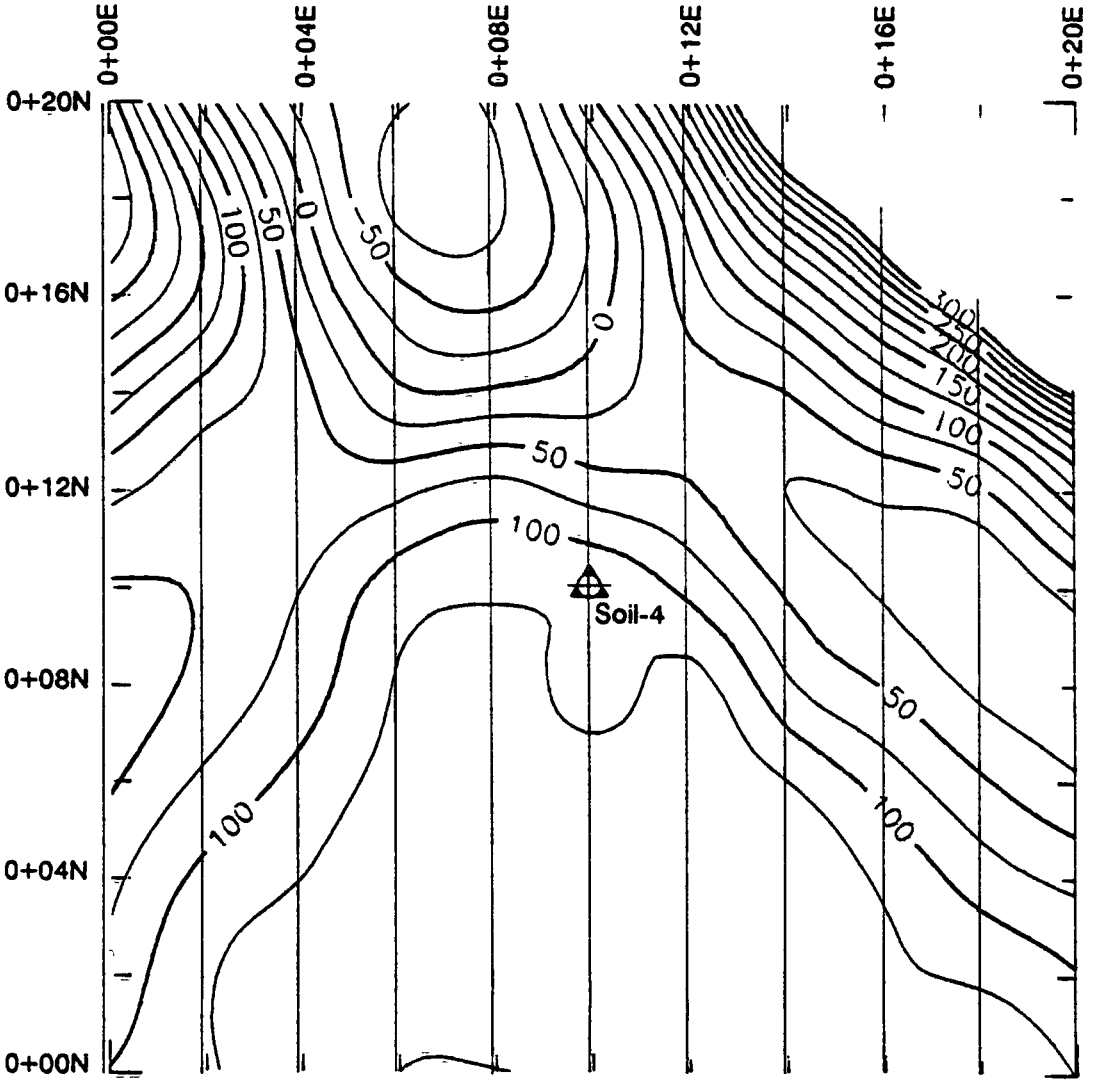


Basemap from:
SITE MAP, Figure 2, New York Emulsions Tar Product,ID 633031 and Mohawk Valley Oil, Inc., ID 633032. New York State Department of Environmental Conservation, 1988

prepared by DLK checked by MB reviewed by	GEOPHYSICAL INVESTIGATION OF THE UTICA CITY DUMP, MONARCH CHEMICAL, NEW YORK EMULSIONS, AND MOHAWK VALLEY OIL PROPERTIES UTICA, NEW YORK prepared for URS CONSULTANTS	Geophysical Coverage Map Mohawk Valley Oil and New York Emulsions Weston Geophysical | Fig 4

8/90

Proposed Soil Boring
Soil-4



EXPLANATION

EM-31 conductivity survey line location

Proposed soil boring

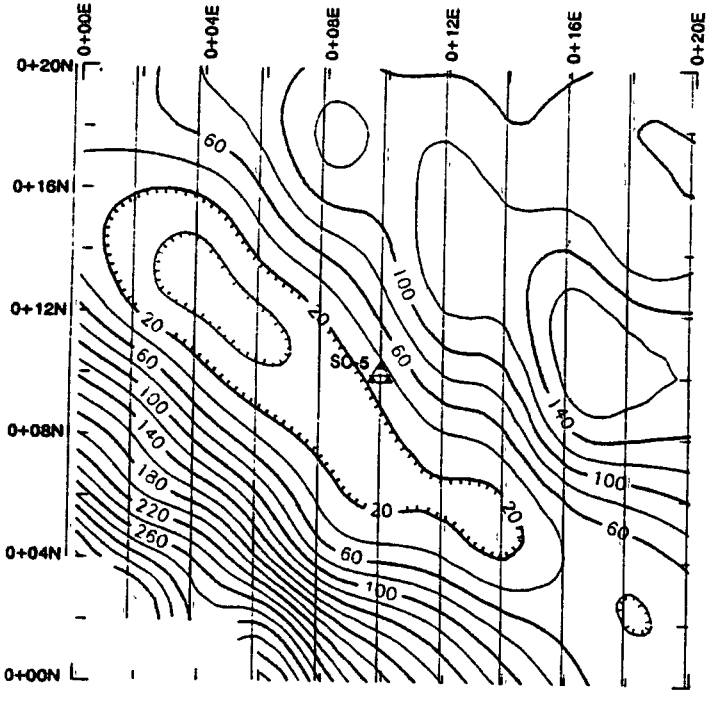
50 — Conductivity contour
Contour interval: 25 millimhos/meter

0 5
scale in feet

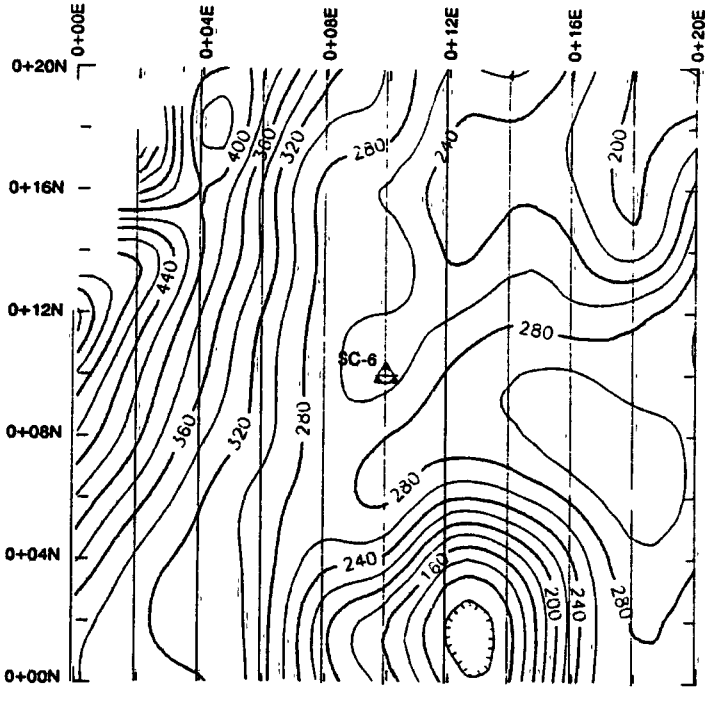
N

prepared by DLK checked by MB reviewed by VJM	GEOPHYSICAL INVESTIGATION OF THE UTICA CITY DUMP, MONARCH CHEMICAL, NEW YORK EMULSIONS, AND MOHAWK VALLEY OIL PROPERTIES UTICA, NEW YORK prepared for URS CONSULTANTS	EM-31 Conductivity Contour Map Boring Soil-4 New York Emulsions Weston Geophysical — Fig. 6

Proposed Monitoring Well
SC-5



Proposed Monitoring Well
SC-6



EXPLANATION

0 5
scale in feet

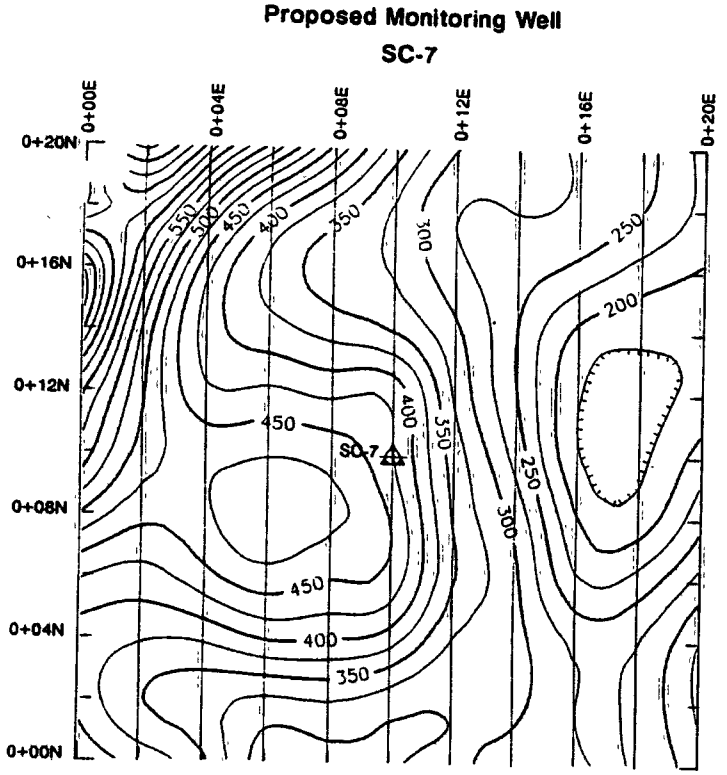
EM-31 conductivity survey line location

Proposed monitoring well

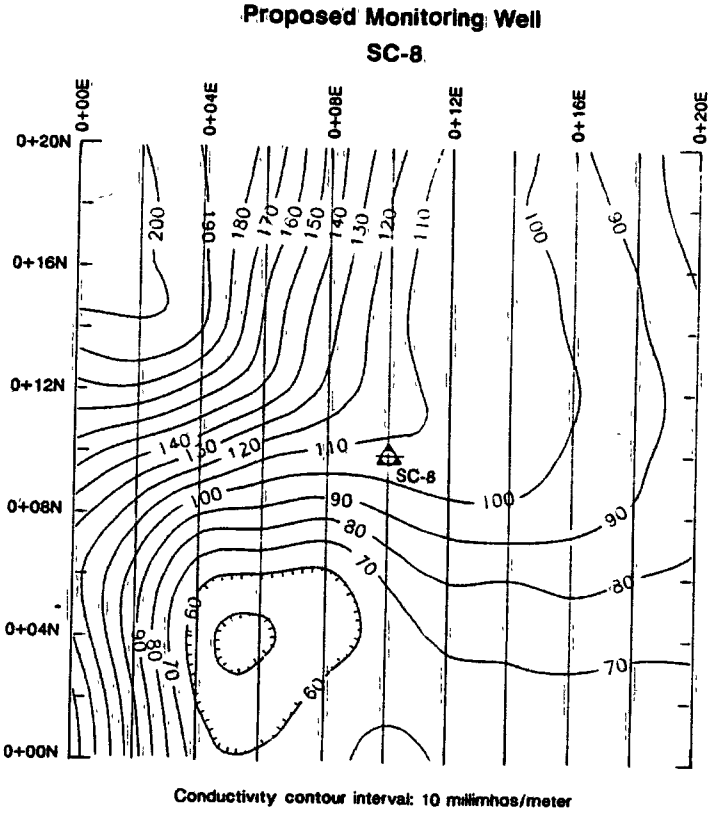
150 Conductivity contour
Contour interval: 20 millimhos/meter

prepared by DLK checked by MB reviewed by VJM	GEOPHYSICAL INVESTIGATION OF THE UTICA CITY DUMP, MONARCH CHEMICAL, NEW YORK EMULSIONS, AND MOHAWK VALLEY OIL PROPERTIES UTICA, NEW YORK prepared for URS CONSULTANTS	EM-31 Conductivity Contour Map Wells SC-5 and SC-6 New York Emulsions	
		Weston Geophysical	Fig. 9

8/90



Conductivity contour interval: 25 millimhos/meter



Conductivity contour interval: 10 millimhos/meter

EXPLANATION

0 5
scale in feet

EM-31 conductivity survey line location

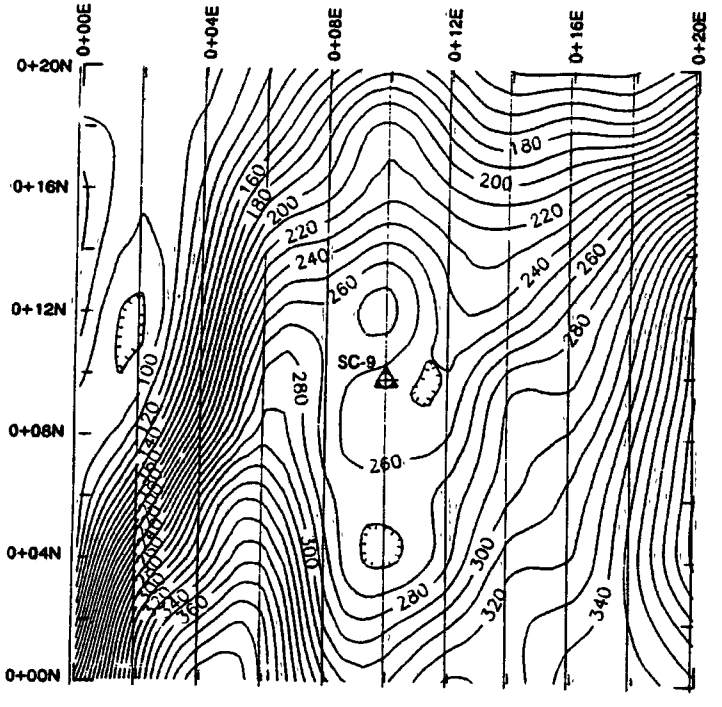
Proposed monitoring well

150 Conductivity contour

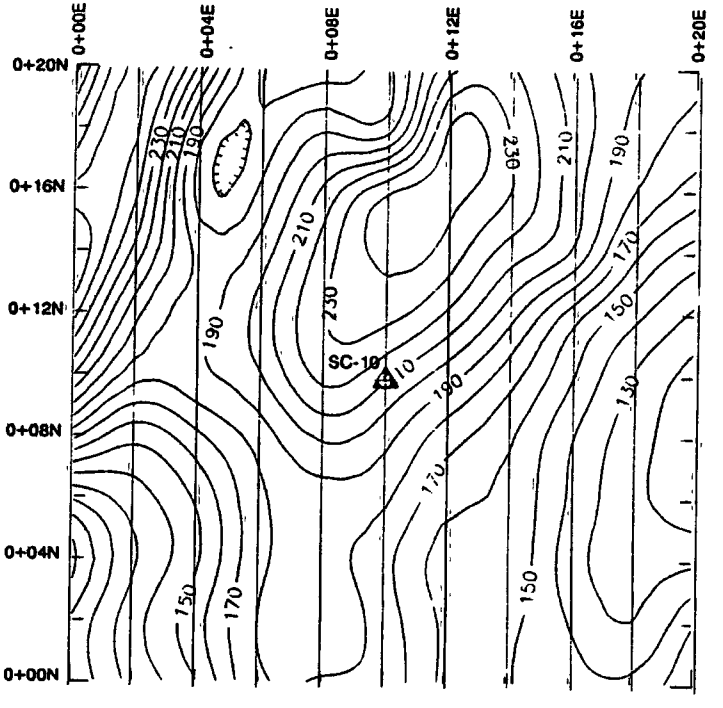
prepared by DLK checked by MB reviewed by VLM	GEOPHYSICAL INVESTIGATION OF THE UTICA CITY DUMP, MONARCH CHEMICAL, NEW YORK EMULSIONS, AND MOHAWK VALLEY OIL PROPERTIES UTICA, NEW YORK prepared for URS CONSULTANTS	EM-31 Conductivity Contour Map Wells SC-7 and SC-8 Mohawk Valley Oil Weston Geophysical — Fig 10

8/90

Proposed Monitoring Well
SC-9



Proposed Soil Boring
SC-10



EXPLANATION

0 5
scale in feet

EM-31 conductivity survey line location

Proposed monitoring well

150 Conductivity contour
Contour interval: 10 millimhos/meter

prepared by DLK checked by MB reviewed by VLM	GEOPHYSICAL INVESTIGATION OF THE UTICA CITY DUMP, MONARCH CHEMICAL, NEW YORK EMULSIONS, AND MOHAWK VALLEY OIL PROPERTIES UTICA, NEW YORK prepared for URS CONSULTANTS	EM-31 Conductivity Contour Map Wells SC-9 and SC-10 New York Emulsions Weston Geophysical — Fig 11

8/90

TABLE

TABLE 1

Summary of Geophysical Well-Clearing Surveys Monarch Chemical, New York Emulsions, Mohawk Valley Oil, and Utica City Dump Sites

SITE	WELL DESIGNATION	STATUS/ACTION
Monarch Chemical	SC-4	OK*
	MC-1	OK
	MC-2	OK
	MC-3	Move 20 feet north
	MC-4	OK
	MC-5	OK
	SB-1	OK
	SB-2	OK
	SB-3	OK
	SB-4	OK
New York Emulsions/ Mohawk Valley Oil	SOIL-1	Move 4 ft. west
	SOIL-2	OK
	SOIL-4	Move 5 ft. south (?)**
	SC-1	Move 5-10 ft. southeast
	SC-2	OK
	SC-3	OK
	SC-4	No location recommended (see text)
	SC-5	No location recommended
	SC-6	No location recommended

TABLE 1 Continued

SITE	WELL DESIGNATION	STATUS/ACTION
	SC-7	No location recommended
	SC-8	Move 4 ft northeast (?)
	SC-9	No location recommended
	SC-10	No location recommended
Utica City Dump	MW-1	OK

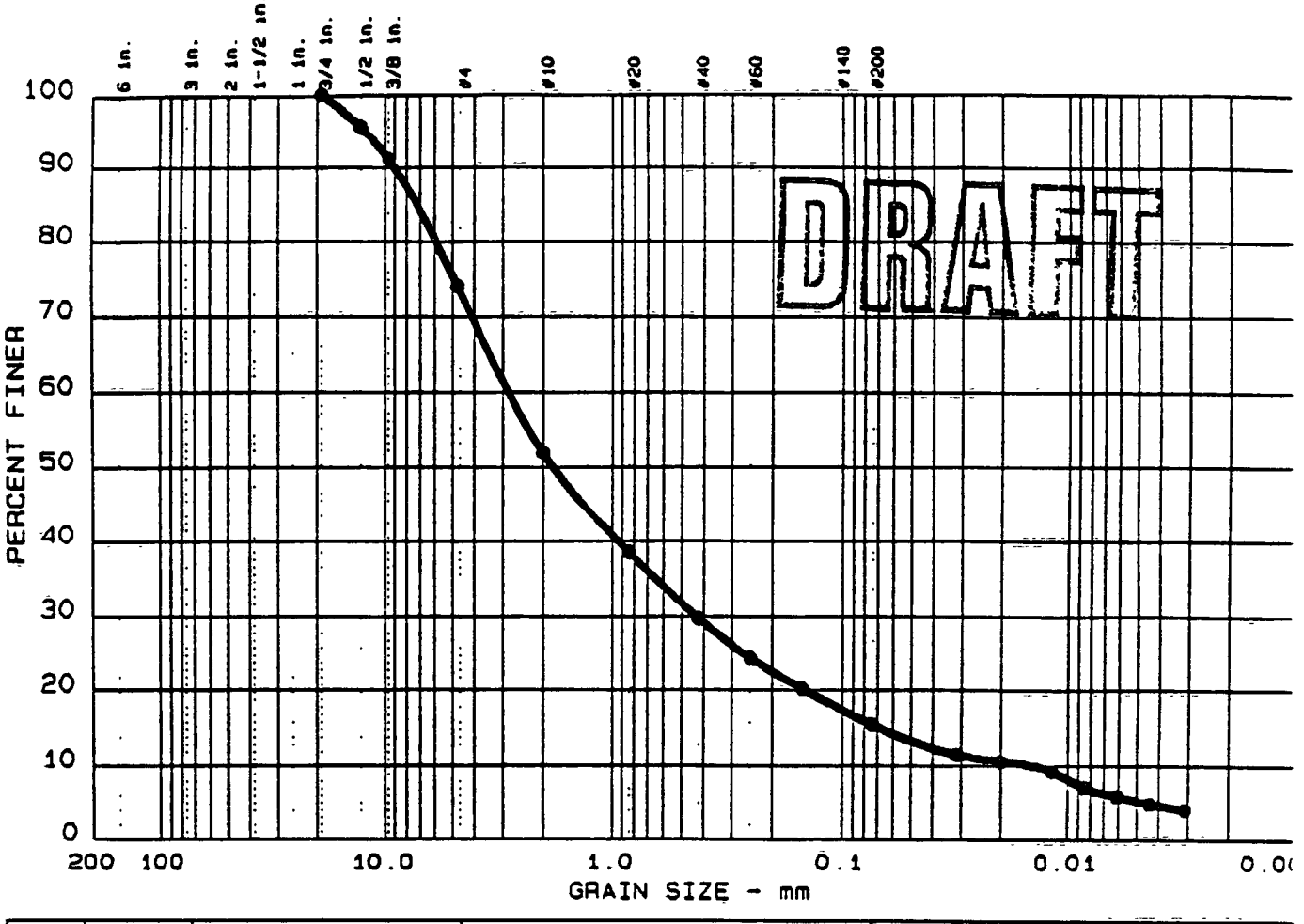
* "OK" indicates an absence of significant buried metal objects

** Question marks indicate recommendations or interpretations with greater than normal uncertainty (see text for further explanation)

APPENDIX B

GEOTECHNICAL SOIL TESTING RESULTS

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	26.0	58.6	10.2	5.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			7.16	2.84	1.81	0.430	0.0689	0.0141	4.62	201.8

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN SAND, Some Gravel, little silt, trace clay		

Project No.: G008.005
Project: N.Y. EMULSIONS TAR PRODUCTS, UTICA, N.Y.
● Location: SC-5 / 8'- 10'

Date: JANUARY 3, 1991

Remarks:

CLIENT: URS

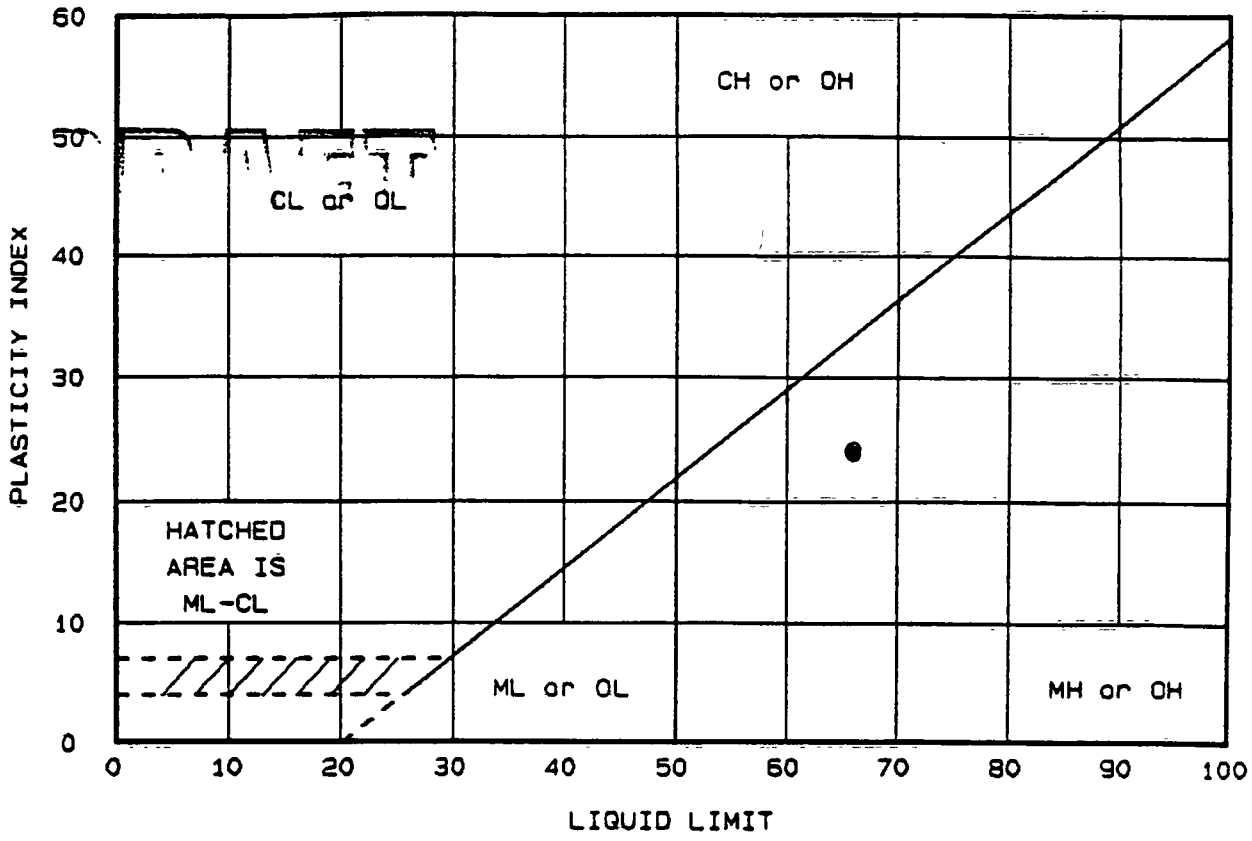
LAB NO. 585.002

GRAIN SIZE DISTRIBUTION TEST REPORT

EMPIRE SOILS INVESTIGATIONS, INC

Figure No. 1

LIQUID AND PLASTIC LIMITS TEST REPORT



Location + Description	LL	PL	PI	-200	ASTM D 2487-85
● SC-6 / 6'- 8'	66	42	24	79.46	MH, Elastic silt with sand

Project No.: G008.005
Project: NEW YORK EMULSIONS TAR PRODUCTS

Client: URS
Location: UTICA, N.Y.

Date: JAN. 3, 1991

Remarks:

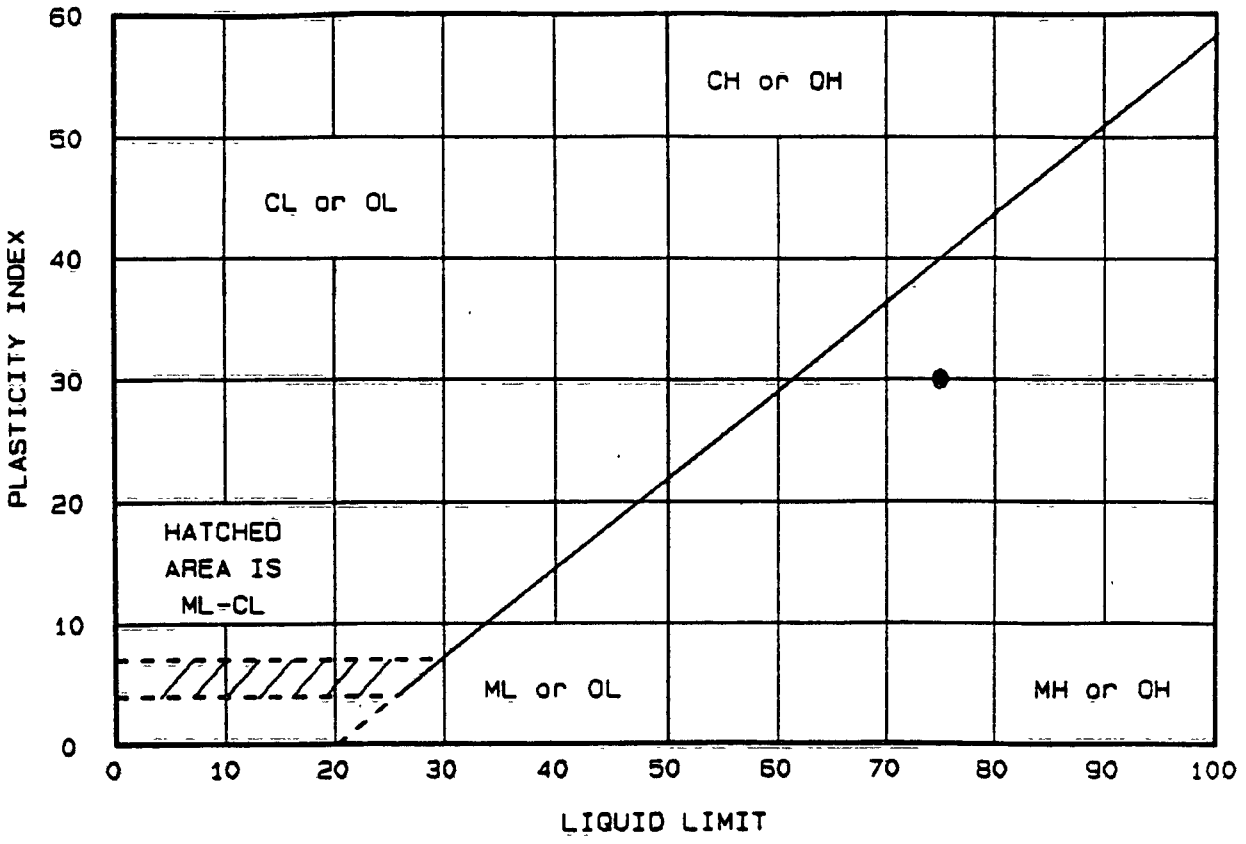
LIQUID AND PLASTIC LIMITS TEST REPORT

EMPIRE SOILS INVESTIGATIONS, INC

LAB NO. 585.001

Fig. No. 1

LIQUID AND PLASTIC LIMITS TEST REPORT



Location + Description	LL	PL	PI	-200	ASTM D 2487-85
● SC-8 / 12'- 14'	75	45	30	82.54	MH, Elastic silt with sand

Project No.: G008.005
Project: NEW YORK EMULSIONS TAR PRODUCTS

Client: URS
Location: UTICA, N.Y.

Date: JAN. 3, 1991

Remarks:

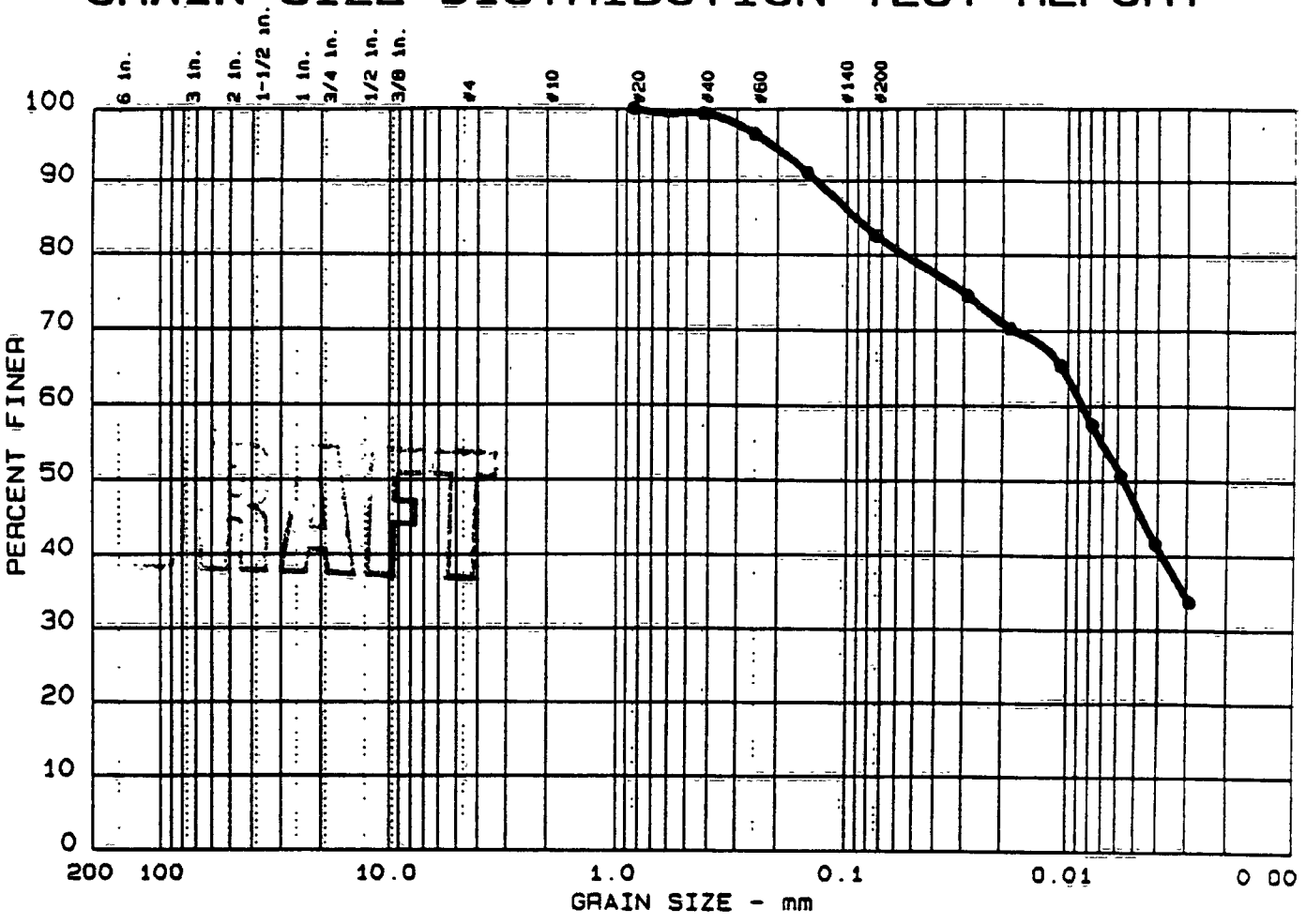
LIQUID AND PLASTIC LIMITS TEST REPORT

EMPIRE SOILS INVESTIGATIONS, INC

LAB NO. 585.005

Fig. No 1

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	17.5	35.8	46 7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	74.6	30.1	0.09		0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN CLAY AND SILT, Little Sand	MH	

Project No.: G008.005
Project: N.Y. EMULSIONS TAR PRODUCTS, UTICA, N.Y.
● Location: SC-8 / 12'- 14'

Date: JANUARY 3, 1991

Remarks:

CLIENT: URS

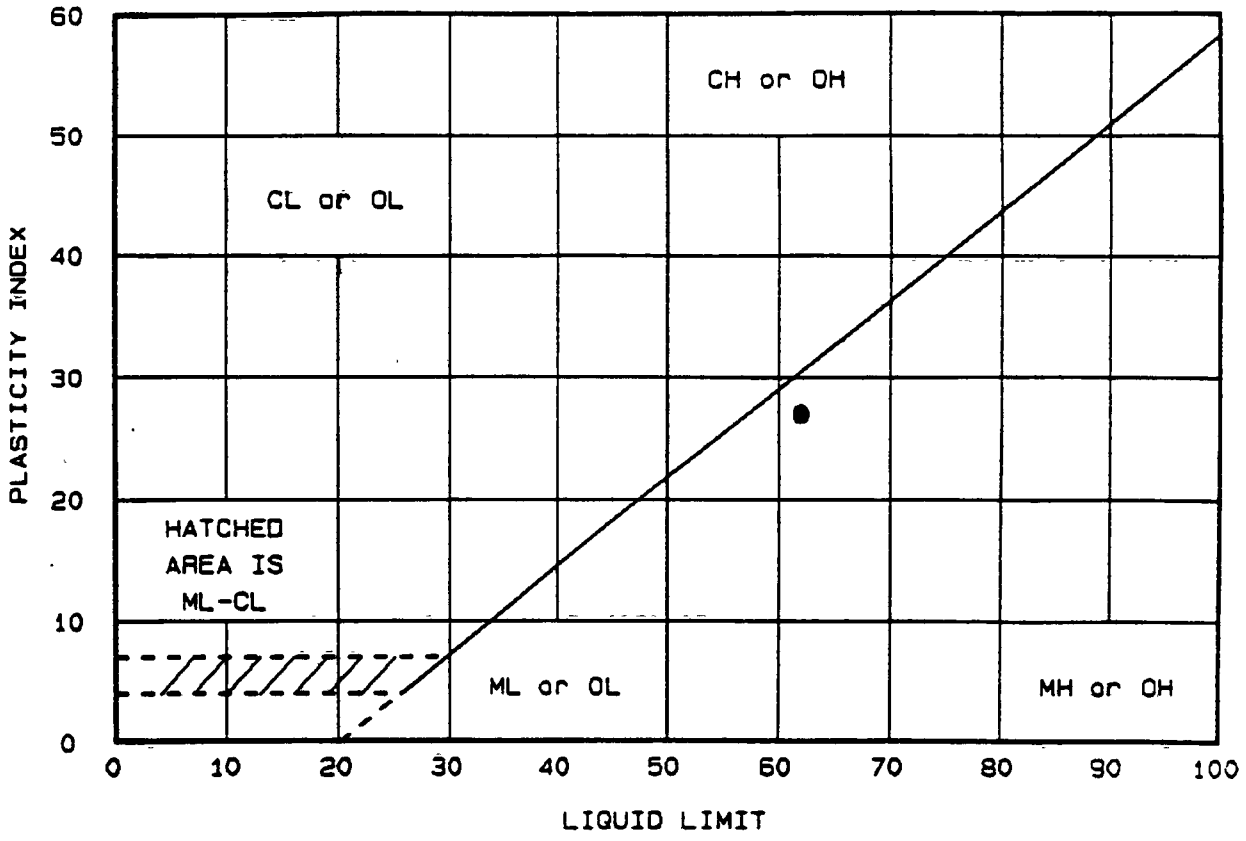
LAB NO. 585.005

GRAIN SIZE DISTRIBUTION TEST REPORT

EMPIRE SOILS INVESTIGATIONS, INC

Figure No. 1

LIQUID AND PLASTIC LIMITS TEST REPORT



Location + Description	LL	PL	PI	-200	ASTM D 2487-85
● SC-9 / 10'- 12'	62	35	27	92.97	MH, Elastic silt

Project No.: G008.005
Project: NEW YORK EMULSIONS TAR PRODUCTS

Client: URS
Location: UTICA, N.Y.

Date: JAN. 3, 1991

Remarks:

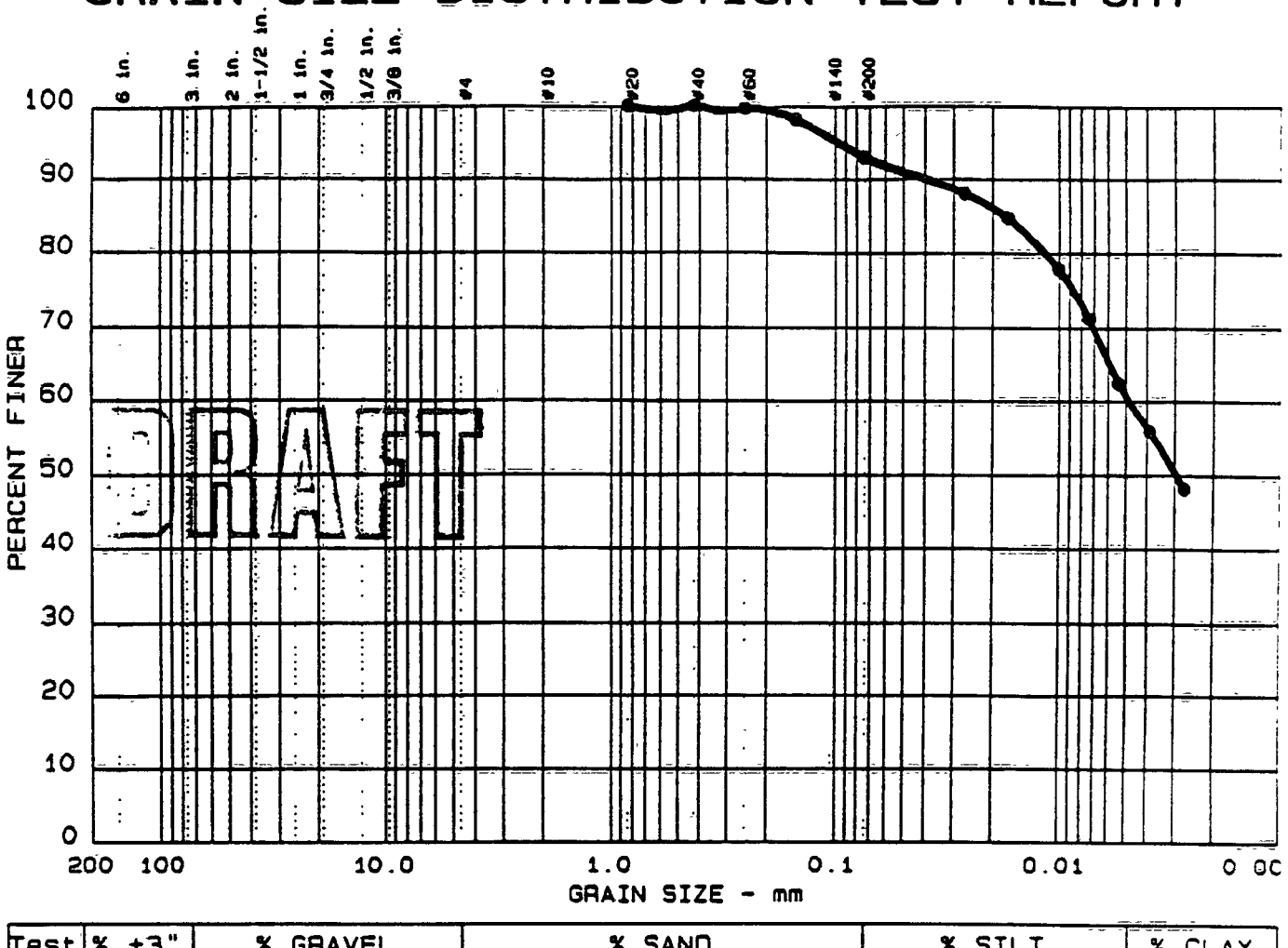
LIQUID AND PLASTIC LIMITS TEST REPORT

EMPIRE SOILS INVESTIGATIONS, INC

LAB NO. 585.006

Fig. No 1

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	7.0	32.4	60.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	62.4	27.5			0.00					

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN CLAY, Some Silt, trace sand	MH	

Project No.: G008.005
Project: N.Y. EMULSIONS TAR PRODUCTS, UTICA, N.Y.
● Location: SC-9 / 10'- 12'

Date: JANUARY 3, 1991

Remarks:
CLIENT: URS

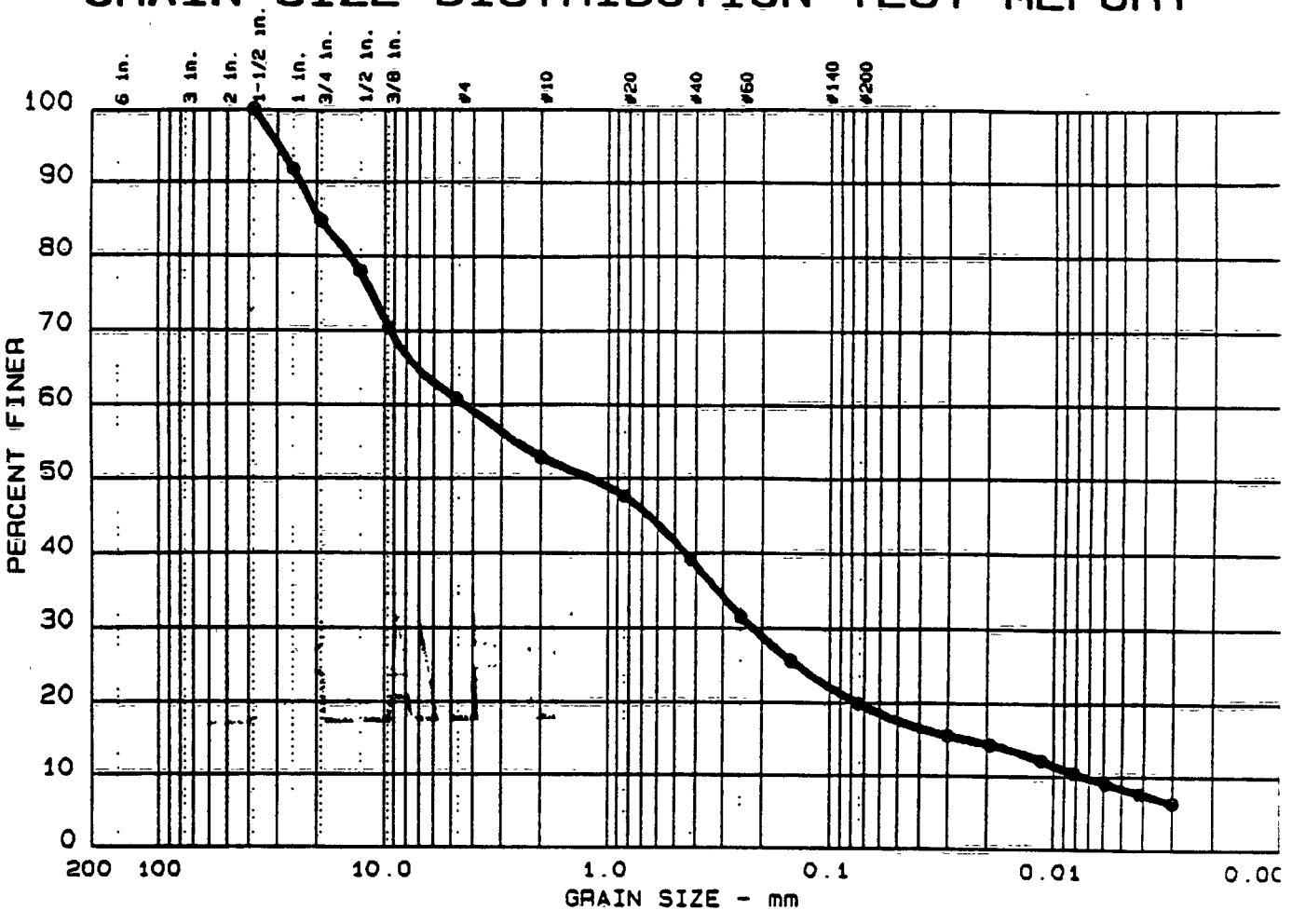
LAB NO. 585.005

GRAIN SIZE DISTRIBUTION TEST REPORT

EMPIRE SOILS INVESTIGATIONS, INC

Figure No. 1

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	39.2	40.9	11.6	8.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			19.23	4.36	1.21	0.221	0.0237	0.0072	1.55	602.8

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN SAND & GRAVEL, Little Silt, trace clay		

Project No.: G008.005
Project: N.Y. EMULSIONS TAR PRODUCTS, UTICA, N.Y.
● Location: SOIL-4 / 2'- 6'

Date: JANUARY 3, 1991

Remarks:

CLIENT: URS

LAB NO. 585.007

GRAIN SIZE DISTRIBUTION TEST REPORT

EMPIRE SOILS INVESTIGATIONS, INC

Figure No. 1

APPENDIX C

SOIL BORING LOGS

URS CONSULTANTS, Inc.

TEST BORING LOG
BORING NO. SC-5

PROJECT: NEW YORK TAR EMULSIONS
CLIENT: NYSDEC
BORING CONTRACTOR: AMERICAN AUGER AND DITCHING
GROUND WATER:

DATE	TIME	LEV	TYPE

	CAS.	SAMP	CORE	TUBE
TYPE		SS		
DIA.		2 IN		
WT.		140 lb		
FALL		30 IN		

* POCKET PENETROMETER READING

SHEET NO. 1 OF 1
JOB NO. : 35231.10 - 00400
BORING LOCATION:
GROUND ELEVATION: *99.17 FT
DATE STARTED: 8/20/90
DATE FINISHED: 8/20/90
DRILLER: ROCKY BAYE
GEOLOGIST: MICHAEL GUTMANN
REVIEWED BY: AJL

DEPTH FT	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	CLASS USCS	HNU (ppm)	REMARKS
		1	SS	23 21 / 12 9	40	BROWN AND BLACK	VERY DENSE	FILL SILTY SAND AND GRAVEL		0	ANGULAR TO SUBROUND GRAVEL
		2	SS	4 2 / 2 4	60		MEDIUM DENSE	BLACK SLUDGE AND TAR MIXED WITH GRAVEL	GM	17	MOTH BALL ODOR
5		3	SS	4 4 / 7 8	40			SOME CLAYEY SILT	SM	10.5	VERY STRONG PETROCHEMICAL ODOR 2-16 FT
		4	SS	12 11 / 7 11	50			RAILROAD TIE WOOD MIXED WITH SLUDGE AND TAR		6	FIRST ENCOUNTER WATER @ 4 FT
		5	SS	7 2 / 3 4	20		LOOSE			2	OILY SHEEN ON MOST SAMPLES
10		6	SS	1 2 / 2 2	0		VERY LOOSE			—	
12											
		7	SS	1 2 / 2 2	70	BROWN GRAY	SOFT	SILTY CLAY OILY SLUDGE PERCOLATING INTO ROOT HOLES THIN 1/8" SAND SEAM	CL MH	5.5	VERY MOIST
15		8	SS	1 2 / 2 1	100					100	MEDIUM PLASTICITY
16								BOTTOM OF BOREHOLE AT 16 FEET			
20											
								* NOTE: ELEVATION RELATIVE TO AN ASSUMED DATUM			
25											
30											
35											

A-3205

COMMENTS ENVIRONMENTAL SAMPLE AT 2-4 FT.
GEOTECHNICAL SAMPLE AT 8-10 FT.

PROJECT NO. 35231.10 - 00400
BORING NO. SC-5

URS CONSULTANTS, Inc.

TEST BORING LOG
BORING NO. SC-6

PROJECT: NEW YORK TAR EMULSIONS
CLIENT: NYS DEC
BORING CONTRACTOR: AMERICAN AUGER AND DITCHING
GROUND WATER:

DATE	TIME	LEV	TYPE

	CAS.	SAMP	CORE	TUBE
TYPE		SS		
DIA.		2 IN		
WT.		140 lb		
FALL		30 IN		

* POCKET PENETROMETER READING

SHEET NO. 1 OF 1
JOB NO.: 35231.10 - 00400
BORING LOCATION:
GROUND ELEVATION: *99.53 FT
DATE STARTED: 8/20/90
DATE FINISHED: 8/20/90
DRILLER: ROCKY BAYE
GEOLOGIST: MICHAEL GUTMANN
REVIEWED BY: AJL

DEPTH FT	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	RECOVERY RQD %	DESCRIPTION: COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	CLASS USCS	HNU (ppm)	REMARKS
		1	SS	18 17 / 17 17	60	BROWN BLACK AND BROWN	DENSE	FILL SANDY SILT SOME GRAVEL	SM	0	STRONG PETRO-CHEMICAL ODOR 2-16 FT
		2	SS	9 6 / 6 6	50		MEDIUM DENSE	OILY GRAVEL AND SILTY SAND		15	FIRST ENCOUNTER WATER AT 4 FT
5		3	SS	8 7 / 7 2	60			CLAYEY SILT AND OILY SLUDGE PERCOLATING INTO ROOT HOLES		7	HNU 2 PPM IN BREATHING ZONE
		4	SS	3 1 / 1 3	70	BLACK	MEDIUM STIFF		ML / MH	6	VERY MOIST
		5	SS	2 3 / 3 4	80					9	
10		6	SS	1 1 / 2 2	60	BROWN STAINED BLACK BROWN TO BROWN GRAY	SOFT	SILTY CLAY OILY SLUDGE STAINING		8	
		7	SS	2 2 / 2 2	90				CL / MH	2	MEDIUM PLASTICITY
15		8	SS	1 1 / 1 1	10					1	VERY MOIST
16								BOTTOM OF BOREHOLE AT 16 FEET			
20											
25								* NOTE: ELEVATION RELATIVE TO AN ASSUMED DATUM			
30											
35											

A-3205

COMMENTS ENVIRONMENTAL SAMPLE 3-5 FT.
GEOTECHNICAL SAMPLE 6-8 FT.

PROJECT NO. 35231.10 - 00400
BORING NO. SC-6

URS CONSULTANTS, Inc.

TEST BORING LOG
BORING NO. SC - 7

PROJECT: NEW YORK TAR EMULSIONS
CLIENT: NYSDEC
BORING CONTRACTOR: AMERICAN AUGER AND DITCHING

GROUND WATER:					CAS.	SAMP	CORE	TUBE
DATE	TIME	LEV	TYPE	TYPE		SS		
				DIA.		2 IN		
				WT.		140 lb		
				FALL		30 IN		
				* POCKET PENETROMETER READING				

SHEET NO. 1 OF 1
JOB NO. : 35231.10 - 00400
BORING LOCATION:
GROUND ELEVATION: *99.83 FT
DATE STARTED: 8/20/90
DATE FINISHED: 8/20/90
DRILLER: ROCKY BAYE
GEOLOGIST: MICHAEL GUTMANN
REVIEWED BY: GJL

DEPTH FT	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	RECOVERY RQD %	DESCRIPTION: COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	CLASS USCS	HNU (ppm)	REMARKS
0		1	SS	9 10 / 10 5	50	BROWN BLACK	MEDIUM DENSE	FILL SILTY SAND WITH SANDY GRAVEL	SM	1	OILY SHEEN ON MOST SAMPLES
		2	SS	1 1 / WOH 2	40	BROWN AND GRAY	VERY LOOSE			2	FIRST ENCOUNTER WATER AT 3 FT
5		3	SS	1 1 / 1 1	40	BLACK		SILT, SOME SAND WITH SLUDGE AND FIBROUS MATERIAL		15	HNU 2 ppm IN BREATHING ZONE
		4	SS	WOH 1 / 1 1	70					2	
8		5	SS	1 2 / 2 3	70	GRAY AND BLACK FEW MOTTLES BRN		CLAYEY SILT MIXED WITH SLUDGE AND FILL	ML	-	
10		6	SS	1 1 / 1 2	70					11.2	
12		7	SS	1 1 / 1 2	70	GRAY BROWN	SOFT	SILTY CLAY SOME PLANT STEMS	CL/MH	1	MEDIUM PLASTIC MOIST
15		8	SS	1 1 / 2 3	50						
16								BOTTOM OF BOREHOLE AT 16 FT			STRONG PETRO-CHEMICAL ODOR 2 - 16 FT
20								* NOTE: ELEVATION RELATIVE TO AN ASSUMED DATUM			
25											
30											
35											

A-3205

COMMENTS ENVIRONMENTAL SAMPLE 6 - 8 FT

PROJECT NO. 35231.10 - 00400
BORING NO. SC - 7

URS CONSULTANTS, Inc.

TEST BORING LOG
BORING NO. SC-8

PROJECT: NEW YORK TAR EMULSIONS
CLIENT: NYSDEC
BORING CONTRACTOR: AMERICAN AUGER AND DITCHING
GROUND WATER:

DATE	TIME	LEV	TYPE

	CAS.	SAMP	CORE	TUBE
TYPE		SS		
DIA.		2 IN		
WT.		140 lb		
FALL		30 IN		

* POCKET PENETROMETER READING

SHEET NO. 1 OF 1
JOB NO. : 35231.10 - 00400
BORING LOCATION:
GROUND ELEVATION: *99.76 FT
DATE STARTED: 8/21/90
DATE FINISHED: 8/21/90
DRILLER: ROCKY BAYE
GEOLOGIST: MICHAEL GUTMANN
REVIEWED BY: GJL

DEPTH FT	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	RECOVERY RQD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	CLASS USCS	HNU (ppm)	REMARKS
		1	SS	14 17 / 29 7	60	BROWN AND BLACK	DENSE	FILL SILTY SAND, SOME GRAVEL		29	PETROCHEMICAL ODOR
		2	SS	3 4 / 6 4	65		LOOSE	OILY SHEEN	SM	64	
5		3	SS	4 1 / 1 2	10		SOFT	CLAYEY SILT WITH OIL → DISTURBED	ML	3	FIRST ENCOUNTER WATER AT 4 FT
6		4	SS	1 1 / 2 3	40	GRAY	SOFT	SILTY CLAY SOME SAND		4.8	MEDIUM PLASTIC
		5	SS	2 3 / 4 4	50	MOTTLED BROWN AND GR-BRN	MEDIUM STIFF			6.5	VERY MOIST
10		6	SS	2 2 / 2 3	60		SOFT	OILY SLUDGE PERCOLATING INTO ROOT HOLES	CL/MH	1.3	
		7	SS	1 1 / 2 3	100	GRAY				119	
15		8	SS	1 2 / 2 2	70					5.6	NO OIL SEEPAGE S-8
16								BOTTOM OF BOREHOLE AT 16 FEET			
20								* NOTE: ELEVATION RELATIVE TO AN ASSUMED DATUM			
25											
30											
35											

A-3205

COMMENTS ENVIRONMENTAL SAMPLE 8 - 10 FT
GEOTECHNICAL SAMPLE 12 - 14 FT

PROJECT NO. 35231.10 - 00400
BORING NO. SC - 8

URS CONSULTANTS, Inc.

TEST BORING LOG
BORING NO. SC-9

PROJECT: NEW YORK TAR EMULSIONS
CLIENT: NYSDEC
BORING CONTRACTOR: AMERICAN AUGER AND DITCHING
GROUND WATER:

DATE	TIME	LEV	TYPE

	CAS.	SAMP	CORE	TUBE
TYPE		SS		
DIA.		2 IN		
WT.		140 lb		
FALL		30 IN		

* POCKET PENETROMETER READING

SHEET NO. 1 OF 1
JOB NO. : 35231.10 - 00400
BORING LOCATION:
GROUND ELEVATION: *99.92 FT
DATE STARTED: 8/21/90
DATE FINISHED: 8/21/90
DRILLER: ROCKY BAYE
GEOLOGIST: MICHAEL GUTMANN
REVIEWED BY: AJL

DEPTH FT	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	RECOVERY ROD %	DESCRIPTION COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	CLASS USCS	HNU (ppm)	REMARKS
0		1	SS	18 14 / 14 8	60	BLACK AND BROWN	MEDIUM DENSE	FILL SILTY SAND, SOME GRAVEL		4.4	PETROCHEMICAL ODOR 2-16FT
		2	SS	3 2 / 2 2	75		VERY LOOSE	BLACK SLUDGE TAR MIX WITH SANDY SILT, SOME GRAVEL	SM	63	FIRST ENCOUNTER WATER AT 4 FT
5		3	SS	3 2 / 2 1	40					44	
		4	SS	1 2 / 2 2	40	GRAY	SOFT	CLAYEY SILT	ML	5.6	VERY MOIST MEDIUM PLASTICITY
9		5	SS	2 2 / 4 3	60					2.1	
10		6	SS	2 2 / 3 2	80	BROWN GRAY MOTTLED OR-BRN	SOFT	SILTY CLAY		11.2	MEDIUM PLASTICITY
		7	SS	1 1 / 2 2	90			SOME PEAT OILY SLUDGE PERCOLATING IN ROOT HOLES	CL MH	2.4	
15		8	SS	2 1 / 2 2	100					162	ABUNDANT OIL SLUDGE
16								BOTTOM OF BOREHOLE AT 16 FEET		15.5 - 16 FT	
20								* NOTE : ELEVATION RELATIVE TO AN ASSUMED DATUM			
25											
30											
35											

A-3205

COMMENTS ENVIRONMENTAL SAMPLE AT 2-4 FT.
GEOTECHNICAL SAMPLE AT 10-12 FT.

PROJECT NO. 35231.10 - 00400
BORING NO SC-9

URS CONSULTANTS, Inc.

TEST BORING LOG
BORING NO. SOIL 4

PROJECT: NEW YORK TAR EMULSIONS
CLIENT: NYSDEC
BORING CONTRACTOR: AMERICAN AUGER AND DITCHING
GROUND WATER:

DATE	TIME	LEV	TYPE

	CAS.	SAMP	CORE	TUBE
TYPE		SS		
DIA.		2 IN		
WT.		140 lb		
FALL		30 IN		

* POCKET PENETROMETER READING

SHEET NO. 1 OF 1
JOB NO. : 35231.10 - 00400
BORING LOCATION:
GROUND ELEVATION: NA
DATE STARTED: 8/21/90
DATE FINISHED: 8/21/90
DRILLER: ROCKY BAYE
GEOLOGIST: MICHAEL GUTMANN
REVIEWED BY: GJZ

DEPTH FT	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	RECOVERY ROD %	DESCRIPTION: COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	CLASS USCS	HNU (ppm)	REMARKS
		1	SS	5 7 / 8 4	40	BROWN AND BLACK	MEDIUM DENSE	FILL		.4	
		2	SS	4 3 / 3 2	30		LOOSE	SILTY SAND, SOME GRAVEL MIXED WITH OILY SLUDGE		3	FIRST ENCOUNTER WATER AT 3FT
5		3	SS	3 2 / 9 8	30		MEDIUM DENSE		SM	5.6	PETROCHEMICAL ODOR 2-10 FT
		4	SS	5 4 / 7 8	10					7.4	WET
10		5	SS	6 8 / 7 3	10					2.1	
								BOTTOM OF BOREHOLE AT 10 FEET			
15											
20											
25											
30											
35											

A-3205

COMMENTS ENVIRONMENTAL SAMPLE 1.5 - 3.5 FEET
GEOTECHNICAL SAMPLE 2 - 6 FEET

PROJECT NO. 35231.10 - 00400
BORING NO. SOIL 4

APPENDIX D

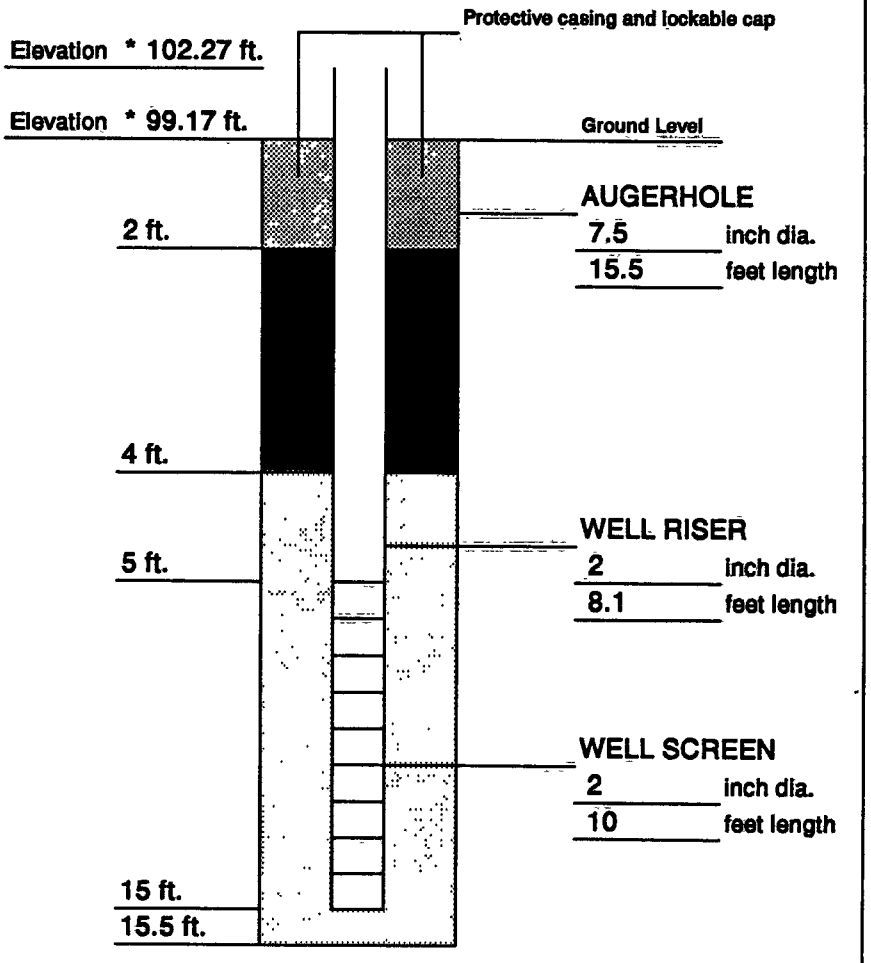
MONITORING WELL CONSTRUCTION DETAILS

DRILLING SUMMARY
Geologist: Michael Gutmann
Drilling Company: American Auger & Ditching
Driller: Rocky Baye
Date: 8/20/90

GEOLOGIC LOG

depth(ft.)	lithology
0–12'	Fill
12–16'	Silty Clay

DEPTH



* NOTE: Elevations relative to assumed datum (TBM Z) for site. To convert URS elevations to MSL elevations, add 307.65 to values.

WELL DESIGN

CASING MATERIAL

Surface: Steel

Monitor: PVC

SCREEN MATERIAL

Type: PVC

Slot Size: .010 in.

SEAL MATERIAL

Seal #1 Type: Pellets
Setting: 2 – 4 ft.

Seal #2 Type: None
Setting:

FILTER MATERIAL

Type: #3 Q Rok

Setting: 4 – 15.5 ft.

ROCK CORING

Cored Interval: None

Core Diameter: None

Reamed Diameter: None

LEGEND

Cement/Bentonite Grout

Bentonite Seal

Silica Sandpack

Client: NYSDEC	Project: New York Emulsions	Project No.: 35231.10
URS Consultants, Inc.	Monitoring Well Construction Details	Well Number: SC–5

DRILLING SUMMARY

Geologist: Michael Gutmann

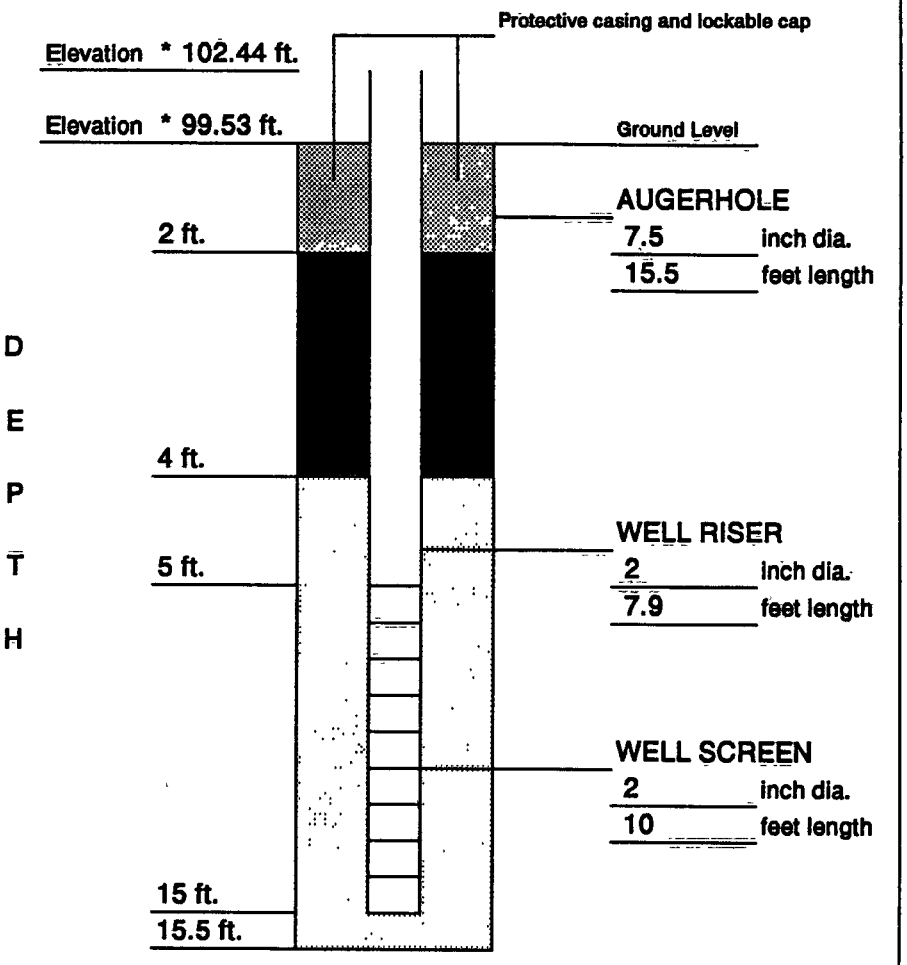
Drilling Company: American Auger & Ditching

Driller: Rocky Baye

Date: 8/20/90

GEOLOGIC LOG

depth(ft.)	lithology
0–10'	Fill
10–16'	Silty Clay



* NOTE: Elevations relative to assumed datum (TBM Z) for site. To convert URS elevations to MSL elevations, add 307.65 to values.

WELL DESIGN

CASING MATERIAL

Surface: Steel

Monitor: PVC

SCREEN MATERIAL

Type: PVC

Slot Size: .010 in.

SEAL MATERIAL

Seal #1 Type: Pellets
Setting: 2 – 4 ft.

Seal #2 Type: None
Setting:

FILTER MATERIAL

Type: #3 Q Rok

Setting: 4 – 15.5 ft.

ROCK CORING

Cored Interval: None

Core Diameter: None

Reamed Diameter: None

LEGEND

Cement/Bentonite Grout

Bentonite Seal

Silica Sandpack

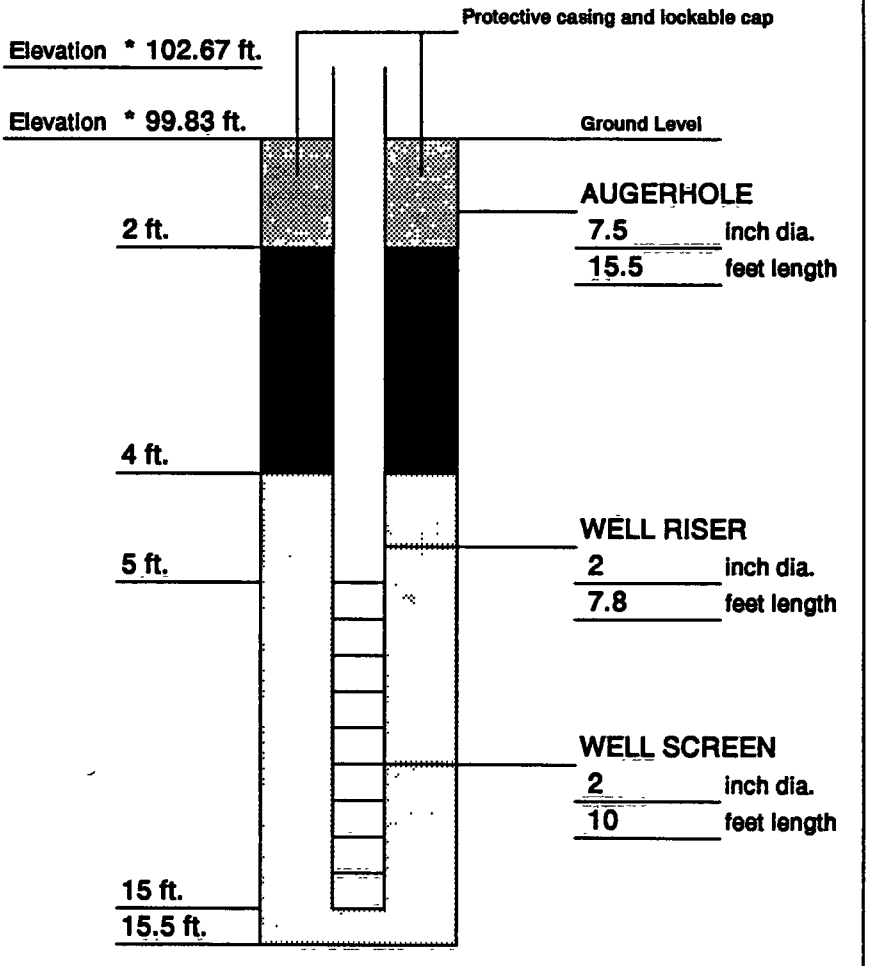
Client: NYSDEC	Project: New York Emulsions	Project No.: 35231.10
URS Consultants, Inc.	Monitoring Well Construction Details	Well Number: SC-6

DRILLING SUMMARY
Geologist: Michael Gutmann
Drilling Company: American Auger & Ditching
Driller: Rocky Baye
Date: 8/20/90

GEOLOGIC LOG

depth(ft.)	lithology
0–12'	Fill
12–16'	Silty Clay

DEPTH



* NOTE: Elevation relative to assumed datum (TBM Z) for site. To convert URS elevations to MSL elevations, add 307.65 to values

WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*SEAL MATERIAL*
Surface: Steel	Type: PVC	Seal #1 Type: Pellets Setting: 2 – 4 ft.
Monitor: PVC	Slot Size: .010 in.	Seal #2 Type: None Setting:

FILTER MATERIAL	*ROCK CORING*	*LEGEND*
Type: #3 Q Rok	Cored Interval: None	Cement/Bentonite Grout
Setting: 4 – 15.5 ft.	Core Diameter: None	Bentonite Seal
	Reamed Diameter: None	Silica Sandpack

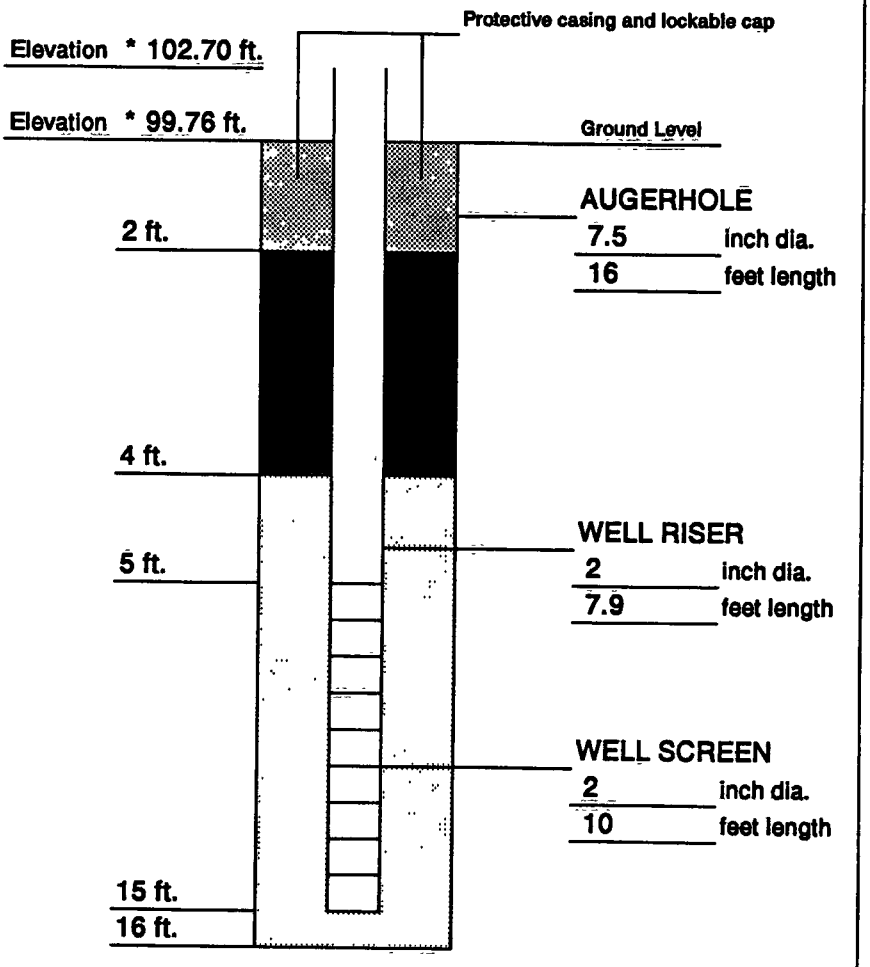
Client: NYSDEC	Project: New York Emulsions	Project No.: 35231.10
URS Consultants, Inc.	Monitoring Well Construction Details	Well Number: SC-7

DRILLING SUMMARY
Geologist: Michael Gutmann
Drilling Company: American Auger & Ditching
Driller: Rocky Baye
Date: 8/21/90

GEOLOGIC LOG

depth(ft.)	lithology
0–6'	Fill
6–16'	Silty Clay

DEPTH



* NOTE: Elevations relative to assumed datum (TBM Z) for site. To convert URS elevations to MSL elevations, add 307.65 to values.

WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*SEAL MATERIAL*
Surface: Steel	Type: PVC	Seal #1 Type: Pellets Setting: 2 – 4 ft.
Monitor: PVC	Slot Size: .010 in.	Seal #2 Type: None Setting:

FILTER MATERIAL	*ROCK CORING*	*LEGEND*
Type: #3 Q Rok	Cored Interval: None	Cement/Bentonite Grout
Setting: 4 – 16 ft.	Core Diameter: None	Bentonite Seal
	Reamed Diameter: None	Silica Sandpack

Client: NYSDEC	Project: New York Emulsions	Project No.: 35231.10
URS Consultants, Inc.	Monitoring Well Construction Details	Well Number: SC-8

DRILLING SUMMARY

Geologist: Michael Gutmann

Drilling Company: American Auger & Ditching

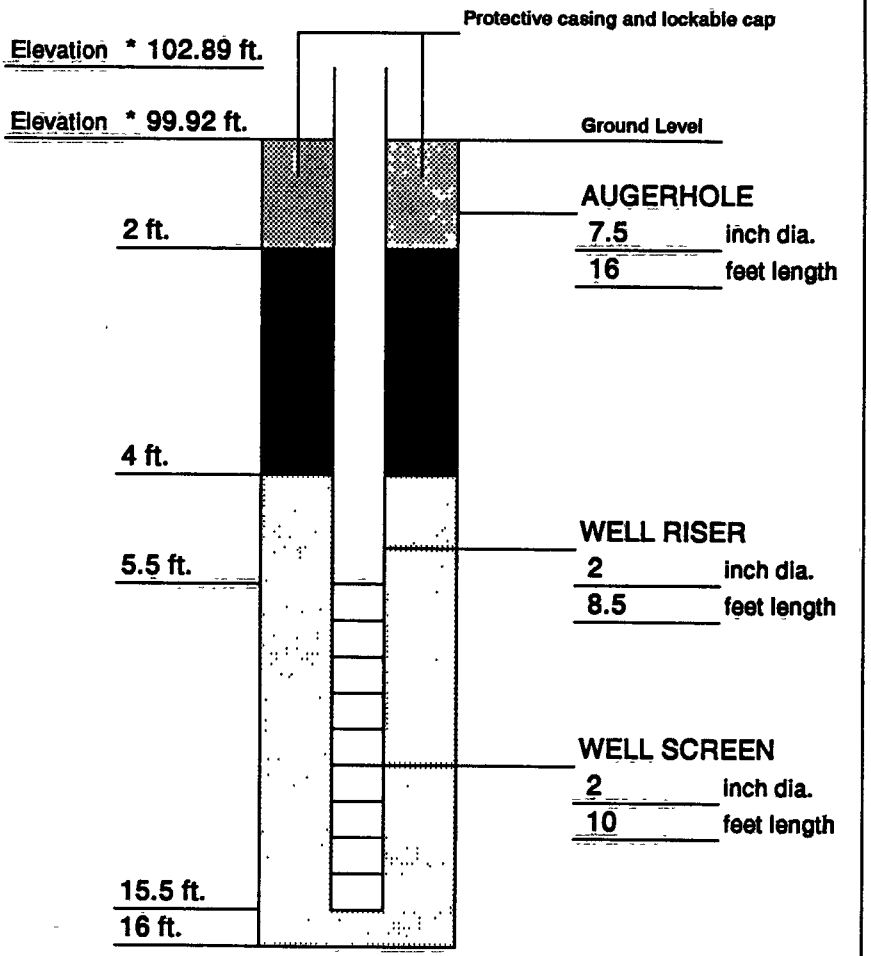
Driller: Rocky Baye

Date: 8/21/90

GEOLOGIC LOG

depth(ft.)	lithology
0–9'	Fill
9–16'	Silty Clay

DEPTH



* NOTE: Elevations relative to assumed datum (TBM Z) for site. To convert URS elevations to MSL elevations, add 307.65 to values.

WELL DESIGN

CASING MATERIAL

Surface: Steel

Monitor: PVC

SCREEN MATERIAL

Type: PVC

Slot Size: .010 in.

SEAL MATERIAL

Seal #1 Type: Pellets
Setting: 2 – 4 ft.

Seal #2 Type: None
Setting:

FILTER MATERIAL

Type: #3 Q Rok

Setting: 4 – 16 ft.

ROCK CORING

Cored Interval: None

Core Diameter: None

Reamed Diameter: None

LEGEND

Cement/Bentonite Grout

Bentonite Seal

Silica Sandpack

Client: NYSDEC	Project: New York Emulsions	Project No.: 35231.10
URS Consultants, Inc.	Monitoring Well Construction Details	Well Number: SC-9

APPENDIX E

WELL DEVELOPMENT/PURGING LOGS

URS CONSULTANTS, INC.

WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: NY Emulsions - Phase II

PROJECT NO.: 35231.10

STAFF: Steve Frank / Wes Gamble

DATE:

WELL NO.: SC-5

① TOTAL CASING AND SCREEN LENGTH (FT.):	17.5
② CASING INTERNAL DIAMETER (in.):	2
③ WATER LEVEL BELOW TOP OF CASING (FT.)	6.87'
④ VOLUME OF WATER IN CASING (GAL.)	1.8

$V = 0.0408 (②)^2 \times (① - ③) =$ _____ GAL.

WELL I.D.	VOL. GAL./FT.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	10	15	20	35	40	50	60	70	80	92	
Temperature	21.0	18.7	19.1	19.1	18.9	19.0	19.5	20.0	20.3	20.1	
pH	7.6	7.4	7.5	8.6	7.8	7.4	7.8	8.2	8.5	8.3	
Conductivity	200	100	100	100	100	50	50	100	100	100	
Turbidity	999+	680	685	118	290	130	185	180	332	59	

COMMENTS: Well developed with bailer... good recharge.
Oily product floating on water

A-2347

URS CONSULTANTS, INC.

WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: NY EMULSIONS - PHASE II

PROJECT NO.: 35231.10

STAFF: Steve Frank / Wes Gamble

DATE: 9/11/90

WELL NO.: SC-6

① TOTAL CASING AND SCREEN LENGTH (FT.):	17.5
② CASING INTERNAL DIAMETER (in.):	2
③ WATER LEVEL BELOW TOP OF CASING (FT.)	6.15'
④ VOLUME OF WATER IN CASING (GAL.)	1.9

WELL I.D.	VOL. GAL./FT.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$V = 0.0408 (②)^2 \times (① - ③)$ = _____ GAL.

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	10	20	25	48	53	58	65				
Temperature	21.7	22.7	22.6	22.2	24.2	23.7	23.1				
pH	7.3	7.3	7.0	7.2	7.3	7.4	7.2				
Conductivity	400	500	500	500	500	1700	600				
Turbidity	886	630	999+	796	153	25	42				

COMMENTS: Oily sheen on water

A-2347

URS CONSULTANTS, INC.	WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: NY Emulsions - Phase II

PROJECT NO.: 35231.10

STAFF: Steve Frank / Wes Gamble

DATE: 9/11 - 9/14/90

WELL NO.: SC-7

① TOTAL CASING AND SCREEN LENGTH (FT.): 17.5

② CASING INTERNAL DIAMETER (in.): 2

③ WATER LEVEL BELOW TOP OF CASING (FT.) 5.62'

④ VOLUME OF WATER IN CASING (GAL.) 2.0

$V = 0.0408 (②)^2 \times (① - ③) =$ _____ GAL.

WELL I.D.	VOL. GAL./FT.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
		25	30	35							
Temperature		15.0	15.5	15.5							
pH		*									
Conductivity		1800	1700	1800							
Turbidity		850	250	82							

COMMENTS: Very slow recharge / much oily sheen.

* pH meter not working

150 ppm H-Nu in Riser.

A-2347

URS CONSULTANTS, INC.	WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: N.Y. Emulsions - Phase II

PROJECT NO.: 35231.10

STAFF: Steve Frank / Wes Gamble

DATE: 9/11 - 9/12/90

WELL NO.: SC-8

① TOTAL CASING AND SCREEN LENGTH (FT.):	17.5
② CASING INTERNAL DIAMETER (in.):	2
③ WATER LEVEL BELOW TOP OF CASING (FT.)	3.93
④ VOLUME OF WATER IN CASING (GAL.)	2.3

WELL I.D.	VOL. GAL./FT.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$V = 0.0408 (②)^2 \times (① - ③) =$ _____ GAL.

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	25	30	35	38	43						
Temperature	23.7	19.7	24.5	24.3	24.4						
pH	7.4	7.2	7.2	7.3	7.2						
Conductivity	300	400	400	300	300						
Turbidity	67	710	158	166	46						

COMMENTS: No oil sheen but has odor

A-2347

URS CONSULTANTS, INC.

WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: NY Emulsions - Phase II

PROJECT NO.: 35231.10

STAFF: Steve Frank / Wes Gamble

DATE: 9/12/90

WELL NO.: SC-9

① TOTAL CASING AND SCREEN LENGTH (FT.):	17.5
② CASING INTERNAL DIAMETER (in.):	2
③ WATER LEVEL BELOW TOP OF CASING (FT.)	3.62
④ VOLUME OF WATER IN CASING (GAL.)	2.4

WELL I.D.	VOL. GAL./FT.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$V = 0.0408 (②)^2 \times (① - ③) =$ _____ GAL.

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	10	20	30	35	40	45	50	55			
Temperature	20.3	21.6	22.4	23.1	23.1	23.1	21.8	20.9			
pH	7.3	8.2	8.9	8.7	8.6	8.4	7.8	7.6			
Conductivity	200	100	100	100	100	100	200	150			
Turbidity	999+	999+	999+	126	294	298	101	36			

COMMENTS: 0.1g sheen on water

A-2347

URS Company, Inc. CONSULTING ENGINEERS NEW YORK NEW JERSEY

WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: NY Emulsions

PROJECT NO.: 35231.10

STAFF: Dave Sheppard / Steve Frank PURGE

DATE: 10/2/90

WELL NO.: SC-5

① TOTAL CASING AND SCREEN LENGTH (FT.):	17.5
② CASING INTERNAL DIAMETER (in.):	2
③ WATER LEVEL BELOW TOP OF CASING (FT.)	5.21
④ VOLUME OF WATER IN CASING (GAL.)	2.09

WELL ID.	VOL. GAL./FT
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$V = 0.0408 (②)^2 \times (① - ③) =$ 6.26 GAL. (3 casings)

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	7.0				10/3/90	SAMPLE				
pH	7.15	7.16					7.58				
Spec Con (umho)	825	470					751				
turbid (NTU)	>100	>100					96				
temp (°C)	15.0	15.6					17.1				

COMMENTS: Highly Turbid, Strong Oil/Tar Odor w/oily Sheen
Purged w/ S.S. Bailer

A-2347

URS Company, Inc. CONSULTING ENGINEERS NEW YORK NEW JERSEY

WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: PHASE II NY EMULSIONS

PROJECT NO.: 35231-10

STAFF: D.S/S.F

DATE: 10-2-90 PURGE

WELL NO.: SC6

① TOTAL CASING AND SCREEN LENGTH (FT.):	17.50
② CASING INTERNAL DIAMETER (in.):	2
③ WATER LEVEL BELOW TOP OF CASING (FT.)	5.72
④ VOLUME OF WATER IN CASING (GAL.)	1.99

WELL I.D.	VOL GAL./FT
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$V = 0.0408 (②)^2 \times (① - ③) =$ 5.97 GAL. (3 casings)

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	7				10/3/90	SAMPLE				
pH	6.63	6.54					7.39				
Spec. Cond. (µmho)	961	1048					1165				
Turbid (NTU)	96	>100					2.4				
Temp. (°C)	16.8	17.1					17.9				

COMMENTS: Sl. Turbid, Strong Oil/Tar Odor w/Oily Sheen. To Highly Turbid
Purged w/ Stainless Steel Bailer

A-2347

Figure C-1 of Well Development and Purging Log

URS Company, Inc. CONSULTING ENGINEERS NEW YORK NEW JERSEY

WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: Phase II - NY Emulsions

PROJECT NO.: 35231.10

STAFF: DS/SF

DATE: 10-2-90 Purge

WELL NO.: SC7

		WELL I.D.	VOL. GAL./FT
① TOTAL CASING AND SCREEN LENGTH (FT.):	~~15.50~~ 17.50	1"	0.04
② CASING INTERNAL DIAMETER (in.):	2	2"	0.17
③ WATER LEVEL BELOW TOP OF CASING (FT.)	6.13	3"	0.38
④ VOLUME OF WATER IN CASING (GAL.)	1.85	4"	0.66
		5"	1.04
		6"	1.50
		8"	2.60

$V = 0.0408 (②)^2 \times (① - ③) =$ 5.55 GAL.

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	6.0				10/3/90	SAMPLE				
pH	6.98	7.06					7.37				
Spec Cond (µmhos)	1570	2190					1975				
Turbidity (NTU)	>100	>100					42				
Temp (°C)	14.7	14.0					16.5				

COMMENTS: Highly Turbid w/ sediment. Tar-like odor

Purged w/ check valve LOPE.

A-2347

URS Company, Inc. CONSULTING ENGINEERS NEW YORK NEW JERSEY

WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: Phase II - NY Emulsions

PROJECT NO.: 35231.10

STAFF: D.S/S.F

DATE: 10-2-90 Purge

WELL NO.: SC 8

		WELL ID.	VOL. GAL./FT
① TOTAL CASING AND SCREEN LENGTH (FT.):	17.50	1"	0.04
② CASING INTERNAL DIAMETER (in.):	2	2"	0.17
③ WATER LEVEL BELOW TOP OF CASING (FT.)	3.89	3"	0.38
④ VOLUME OF WATER IN CASING (GAL.)	2.31	4"	0.66
		5"	1.04
		6"	1.50
		8"	2.60

$V = 0.0408 (②)^2 \times (① - ③) =$ 6.93 GAL. (3 casings)

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	7.0				10/3/90	SAMPLE				
pH	6.83	6.64					7.55				
Spec. Cond (µmho)	708	714					1141				
Turbid (NTU)	78	>100					0.4				
Temp (°C)	16.4	16.7					16.9				

COMMENTS: SI Turbid, Strong Oil/Tar Odor to Highly Turbid.
Purged w/S.S. bailer

A-2347

Figure C-4 of Well Development and Purging Log

URS Company, Inc. CONSULTING ENGINEERS NEW YORK NEW JERSEY

WELL DEVELOPMENT/PURGING LOG

PROJECT TITLE: NY Emulsions

PROJECT NO.: 35231.10

STAFF: DS / SF

DATE: 10-2-90 Purge

WELL NO.: SC9

		WELL I.D.	VOL. GAL./FT
① TOTAL CASING AND SCREEN LENGTH (FT.):	17.5	1"	0.04
② CASING INTERNAL DIAMETER (in.):	2	2"	0.17
③ WATER LEVEL BELOW TOP OF CASING (FT.)	3.49	3"	0.38
④ VOLUME OF WATER IN CASING (GAL.)	2.38	4"	0.66
		5"	1.04
		6"	1.50
		8"	2.60

$V = 0.0408 (②)^2 \times (① - ③) =$ 7.14 GAL (3 casings)

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	7.5				10/3/90	SAMPLE				
pH	8.42	8.65					9.23				
Spec. Cond. (µmho)	463	440					539				
Turbid (NTU)	10	>100					10				
Temp (°C)	14.3	16.0					16.2				

COMMENTS: Gasoline appearance, Strong Gas/Oil odor. Oily sheen + effervescent appearance
Turning highly turbid.
Purged w/ s s bailer

A-2347

Figure C.4-6 Well Development and Purging Log

APPENDIX F

SAMPLE DESCRIPTIONS

SAMPLE ID	DATE SAMPLED	SAMPLE TYPE	DESCRIPTION	LOCATION
SC-5 GW	10/3/90	Groundwater	Turbid and dark. Strong naptha odor.	Southern margin of New York Emulsions property, near fence.
SC-6 GW	10/3/90	Groundwater	Clear with a little silt. Moderate naptha odor.	Southwest portion of New York Emulsions property, near fence.
SC-7 GW	10/3/90	Groundwater	Moderately turbid and yellow. Moderate naptha odor.	Northwest portion of New York Emulsions property, near fence.
SC-8 GW	10/3/90	Groundwater	Very slightly turbid. Moderate naptha odor.	Central portion of New York Emulsions property.
SC-9 GW	10/3/90	Groundwater	Clear but yellowish. Slight naptha odor.	Central portion of New York Emulsions property.
SC-5 (2-4 ft.)	8/20/90	Subsurface soil	Black, hard, moist, silty sand fill. Some tar or creosote staining. Strong naptha odor.	Southern margin of New York Emulsions property, near fence.
SC-6 (3-5 ft.)	8/20/90	Subsurface soil	Black, oily, wet, sand and gravel fill.	Southwest portion of New York Emulsions property.
SC-7 (6-8 ft.)	8/20/90	Subsurface soil	Black, sludgey, greasy, oily sandy fill.	Northwest portion of New York Emulsions property, near fence.
SC-8 (8-10 ft.)	8/21/90	Subsurface soil	Brown, very moist, clayey silt. Oily sheen and petrochemical odor.	Central portion of New York Emulsions property.
SC-9 (2-4 ft.)	8/21/90	Subsurface soil	Black, moist, sandy silt fill. Petrochemical odor.	Central portion of New York Emulsions property.

SAMPLE ID	DATE SAMPLED	SAMPLE TYPE	DESCRIPTION	LOCATION
SOIL-4 (1.5-3.5 ft.)	8/21/90	Subsurface soil	Black, oily, wet, silty sand fill. Petrochemical odor.	Northern end of New York Emulsions property.
SW-4	10/4/90	Surface water	Slightly turbid, light brown, little organic matter.	South end of New York Emulsions property.
TAR-1	10/5/90	Surface waste	Black, very viscous, tar/asphalt-like product. Some gravel from cover bound into it.	Northeast edge of New York Emulsions property.

APPENDIX G

PHASE II ANALYTICAL RESULTS

ANALYTICAL DATA ASSESSMENT

FOR

PHASE II CHEMICAL ANALYSES AT NEW YORK EMULSIONS TAR PRODUCTS

Performed By:

VERSAR LABORATORIES, INC.

Prepared For:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

By:

URS CONSULTANTS, INC.

JUNE 1991

INTRODUCTION: This assessment represents the best judgement of URS Consultants, Inc. (URS) concerning the useability of the chemical data produced by Versar Laboratories, Inc. a subcontractor to URS, as part of the Phase II Investigation at New York Emulsions Tar Products site in Oneida County, New York. This project is being funded by the New York State Department of Environmental Conservation (NYSDEC). The data being evaluated is from the sampling of surface waters, surface waste, drill water, soil borings, and groundwater samples. All analyses performed by Versar Laboratories Inc., were subject to NYSDEC Analytical Services Protocol - September 1989.

Data documentation and chain-of-custody procedures were performed in accordance with NYSDEC Analytical Services Protocol - September 1989. Data validation and determination of useability were performed in accordance with the level of effort discussed in the transmittals between URS and the NYSDEC which stated each site would be screened for compliance with analytical holding times, surrogate and spike recovery criteria, method blank requirements, and initial and continuing calibration requirements. The primary importance of this chemical data is to allow an accurate assessment of sites and to determine if further study is required prior to reclassification and/or delisting.

CATEGORIES: The following tables summarize our assessment of data useability on a sample-by-sample and fraction-by-fraction basis. In evaluating this data, we have established three (3) categories which are,

for the most part, gradational in nature. The categories are defined as follows:

Category 1a - Data Useable - Fully useable, although some minor deviations from NYSDEC ASP criteria are possible.

Category 1b - Data Useable with Caution - Cumulative deviations from NYSDEC ASP criteria are greater than Category 1a (e.g., holding time violations, internal standard and surrogate recovery outliers, poor chromatography, calibration standards not within QC limits, etc.). However, TCL compounds were detected at or above the quantitation limit or deviations are not considered significant enough as to jeopardize the chemical representativeness of the sample results. Deviations are explained in the note section of each data useability table.

Category 2a - Rejected Fraction Due to Significant NYSDEC ASP Deviations - Did not comply with NYSDEC ASP or USEPA CLP holding time requirements or low surrogate recoveries indicate poor method efficiency resulting in low bias of analytical data. In either case no TCL compounds were detected at or above the quantitation limit.

Summary Assessment: We recommend acceptance and use of all data in Category 1a. The use of Category 1b data involves some risk in the event of a legalistic challenge based upon non-compliance with strict NYSDEC ASP criteria. However, given the purpose of the Phase II studies, we cautiously recommend the use of the data categorized as 1b. We recommend rejection of all data in Category 2a.

James Lanzo
Project Manager

Thomas Knickerbocker
QA/QC Officer

TABLE 1

NEW YORK EMULSIONS

ANALYTICAL DATA ASSESSMENT SUMMARY
MATRIX: Soil Borings, Groundwater, Waste, Surface Water, Drill Water
Sample Delivery Group: 3348/3358/3359/3648/3658/3660
Assessment Categories: 1a, 1b, 2a

Sample ID	VOA	SVOA	Pest/PCB	Metals	CN	RCRA	EPTOX Metals	EPTOX Pest	EPTOX Herb	Notes
SC-5-SB	1b	1b	1b	1a	1a	--	--	--	--	1, 3, 5
SC-6-SB	2a	1b	1b	1a	1a	--	--	--	--	1, 3
SC-7-SB	1b	1b	1b	1a	1a	--	--	--	--	1, 3, 5
Hold Blank 8/22	1b	--	--	--	--	--	--	--	--	2
SC-8-SB	1b	1a	1b	1a	1a	--	--	--	--	3, 5
SC-9-SB	1b	1a	1b	1a	1a	--	--	--	--	3, 5
SOIL-4-SB	1b	1b	1b	1a	1a	--	--	--	--	3, 5, 6
SC-5-GW	1a	1b	--	--	1a	--	--	--	--	4
SC-5-GW-MS	1a	1b	--	--	1a	--	--	--	--	4
SC-5-GW-MSD	1a	1b	--	--	1a	--	--	--	--	4
SC-6-GW	1a	1a	--	--	1a	--	--	--	--	
SC-7-GW	1a	1a	--	--	1a	--	--	--	--	
SC-8-GW	1a	1a	--	--	1a	--	--	--	--	
SC-9-GW	1a	1a	--	--	1a	--	--	--	--	
DW-1	1a	1a	1a	1a	1a	--	--	--	--	
GW-RB1	1a	1a	--	--	1a	--	--	--	--	

TABLE 1 - (Continued)

Sample ID	VOA	SVOA	Pest/PCB	Metals	CN	RCRA	EPTOX Metals	EPTOX Pest	EPTOX Herb	Notes
GW-TB1	1a	--	--	--	--	--	--	--	--	
HLDBLK 10/5	1a	--	--	--	--	--	--	--	--	
SW-4	1a	1a	1a	1a	1a	--	--	--	--	
TAR-1	--	--	--	--	--	1b	1b	1b	1b	
SC-5-GW-MSB	1a	1a	--	--	--	--	--	--	--	

Abbreviation/Legend

VOA - Target Compound List (TCL) Volatiles
SVOA - TCL Semivolatiles
Pest/PCB - TCL Pesticides/PCBs
Metals - Target Analyte List (TAL) Metals
CN - Cyanide
RCRA - Reactivity, Corrosivity, Ignitability
EPTox Metals - Extraction Procedure Toxicity Metals
EPTox Pesticides - Extraction Procedure Toxicity Pesticides
EPTox Herbicides - Extraction Procedure Toxicity Herbicides
RB - Rinse Blank
TB - Trip Blank
SB - Soil Boring
MS - Matrix Spike
MSD - Matrix Spike Duplicate
MSB - Matrix Spike Blank
DW - Drill Water Supply
GW - Groundwater
SW - Surface Water

NOTES FOR TABLE 1

1. The semivolatile sample did not comply with NYSDEC ASP holding time requirements but was within USEPA CLP holding time criteria.

2. The volatile sample did not comply with NYSDEC ASP holding time requirements but was within USEPA CLP holding time criteria.

3. The pesticide/PCB calibration standards were outside QC limits.

4. The semivolatile sample had base neutral surrogate outliers. A matrix spike/matrix spike duplicate was performed on this sample with similar results indicating a matrix interference may be present.

5. The volatile sample fraction exceeded NYSDEC ASP and USEPA CLP holding time requirements, however, TCL compounds were detected at or above the quantitation limit.

6. The semivolatile sample fraction exceeded NYSDEC ASP and USEPA CLP holding time requirements, however, TCL compounds were detected at or above the quantitation limit.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC5SB35-4

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348A SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29133

Sample wt/vol: 4.0 (g/mL) G Lab File ID: W3433

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 11 Date Analyzed: 09/04/90

Column: (pack/cap) CAP Dilution Factor: 4.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	5600	U
74-83-9	Bromomethane	5600	U
75-01-4	Vinyl chloride	5600	U
75-00-3	Chloroethane	5600	U
75-09-2	Methylene chloride	2800	U
67-64-1	Acetone	5600	U
75-15-0	Carbon disulfide	2800	U
75-35-4	1,1-Dichloroethene	2800	U
75-34-3	1,1-Dichloroethane	2800	U
540-59-0	1,2-Dichloroethene (total)	2800	U
67-66-3	Chloroform	2800	U
107-06-2	1,2-Dichloroethane	2800	U
78-93-3	2-Butanone	5600	U
71-55-6	1,1,1-Trichloroethane	2800	U
56-23-5	Carbon tetrachloride	2800	U
108-05-4	Vinyl acetate	5600	U
75-27-4	Bromodichloromethane	2800	U
78-87-5	1,2-Dichloropropane	2800	U
10061-01-5	cis-1,3-Dichloropropene	2800	U
79-01-6	Trichloroethene	2800	U
124-48-1	Dibromochloromethane	2800	U
79-00-5	1,1,2-Trichloroethane	2800	U
71-43-2	Benzene	1700	J
10061-02-6	Trans-1,3-dichloropropene	2800	U
75-25-2	Bromoform	2800	U
108-10-1	4-Methyl-2-pentanone	5600	U
591-78-6	2-Hexanone	5600	U
127-18-4	Tetrachloroethene	2800	U
79-34-5	1,1,2,2-Tetrachloroethane	2800	U
108-88-3	Toluene	2800	U
108-90-7	Chlorobenzene	2800	U
100-41-4	Ethylbenzene	25000	
100-42-5	Styrene	2800	U
1330-20-7	Total xylenes	71000	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC5SB35-4

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348A SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29133

Sample wt/vol: 4.0 (g/mL) G Lab File ID: W3433

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 11 Date Analyzed: 09/04/90

Column (pack/cap) CAP Dilution Factor: 4.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKN ETHYLMETHYL BENZENE	19.29	16000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC5SB2-4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29130

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5782

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 11 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 7.50 Dilution Factor: ~~0.94~~ 1.0 JBB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	21000	U
111-44-4	bis(2-Chloroethyl)ether	21000	U
95-57-8	2-Chlorophenol	21000	U
541-73-1	1,3-Dichlorobenzene	21000	U
106-46-7	1,4-Dichlorobenzene	21000	U
100-51-6	Benzyl alcohol	21000	U
95-50-1	1,2-Dichlorobenzene	21000	U
95-48-7	2-Methylphenol	21000	U
108-60-1	bis(2-Chloroisopropyl)ether	21000	U
106-44-5	4-Methylphenol	21000	U
621-64-7	N-Nitroso-di-n-propylamine	21000	U
67-72-1	Hexachloroethane	21000	U
98-95-3	Nitrobenzene	21000	U
78-59-1	Isophorone	21000	U
88-75-5	2-Nitrophenol	21000	U
105-67-9	2,4-Dimethylphenol	21000	U
65-85-0	Benzoic Acid	100000	U
111-91-1	bis(2-Chloroethoxy)methane	21000	U
120-83-2	2,4-Dichlorophenol	21000	U
120-82-1	1,2,4-Trichlorobenzene	21000	U
91-20-3	Naphthalene	350000	ES
106-47-8	4-Chloroaniline	21000	U
87-68-3	Hexachlorobutadiene	21000	U
59-50-7	4-Chloro-3-methylphenol	21000	U
91-57-6	2-Methylnaphthalene	230000	
77-47-4	Hexachlorocyclopentadiene	21000	U
88-06-2	2,4,6-Trichlorophenol	21000	U
95-95-4	2,4,5-Trichlorophenol	100000	U
91-58-7	2-Chloronaphthalene	21000	U
88-74-4	2-Nitroaniline	100000	U
131-11-3	Dimethylphthalate	21000	U
208-96-8	Acenaphthylene	21000	U
606-20-2	2,6-Dinitrotoluene	21000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC5SB2-4

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29130

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5782

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 11 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 7.50 Dilution Factor: ~~0.9~~ 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	100000	U
83-32-9	Acenaphthene	190000	
51-28-5	2,4-Dinitrophenol	100000	U
100-02-7	4-Nitrophenol	100000	U
132-64-9	Dibenzofuran	210000	S
121-14-2	2,4-Dinitrotoluene	21000	U
84-66-2	Diethylphthalate	21000	U
7005-72-3	4-Chlorophenyl-phenylether	21000	U
86-73-7	Fluorene	410000	ES
100-01-6	4-Nitroaniline	100000	U
534-52-1	4,6-Dinitro-2-methylphenol	100000	U
86-30-6	N-nitrosodiphenylamine (1)	21000	U
101-55-3	4-Bromophenyl-phenylether	21000	U
118-74-1	Hexachlorobenzene	21000	U
87-86-5	Pentachlorophenol	100000	U
85-01-8	Phenanthrene	1000000	ES
120-12-7	Anthracene	270000	S
84-74-2	Di-n-butylphthalate	21000	U
206-44-0	Fluoranthene	870000	ES
129-00-0	Pyrene	630000	ES
85-68-7	Butylbenzylphthalate	21000	U
91-94-1	3,3'-Dichlorobenzidine	42000	U
56-55-3	Benzo(a)anthracene	460000	ES
218-01-9	Chrysene	400000	ES
117-81-7	bis(2-Ethylhexyl)phthalate	21000	U
117-84-0	Di-n-octyl phthalate	21000	U
205-99-2	Benzo(b)fluoranthene	450000	ES
207-08-9	Benzo(k)fluoranthene	840000	ES
50-32-8	Benzo(a)pyrene	350000	ES
193-39-5	Indeno(1,2,3-cd)pyrene	94000	
53-70-3	Dibenz(a,h)anthracene	27000	X
191-24-2	Benzo(g,h,i)perylene	60000	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC5SB2-4

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29130

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5782

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 11 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 7.50 Dilution Factor: ~~0.94~~ 1.0

Number TICs found: 22

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	496-11-7	1H-INDENE, 2,3-DIHYDRO-	5.67	85000	J
2.		UNK POLYAROMATIC HYDROCARBON	9.12	270000	J
3.		UNKNOWN DIMETHYL NAPHTHALENE	10.12	93000	J
4.		UNKNOWN DIMETHYL NAPHTHALENE	10.30	120000	J
5.		UNKNOWN AROMATIC HYDROCARBON	12.22	51000	J
6.		UNKNOWN	12.39	66000	J
7.		UNKNOWN	12.52	110000	J
8.		UNKNOWN SUBSTITUTED FLUORENE	13.14	68000	J
9.		UNKNOWN METHYL FLUORENE	13.20	38000	J
10.		UNK POLYAROMATIC HYDROCARBON	14.92	130000	J
11.		UNK POLYAROMATIC HYDROCARBON	14.99	170000	J
12.		UNK POLYAROMATIC HYDROCARBON	15.17	260000	J
13.		UNK POLYAROMATIC HYDROCARBON	15.52	85000	J
14.		UNK POLYAROMATIC HYDROCARBON	17.52	260000	J
15.		UNK POLYAROMATIC HYDROCARBON	17.64	210000	J
16.		UNKNOWN	21.02	8500	J
17.		UNK POLYAROMATIC HYDROCARBON	21.44	47000	J
18.		UNK POLYAROMATIC HYDROCARBON	22.15	93000	J
19.		UNKNOWN KETONE	22.45	47000	J
20.		UNK POLYAROMATIC HYDROCARBON	22.69	160000	J
21.		UNK POLYAROMATIC HYDROCARBON	23.12	62000	J
22.		UNKNOWN	23.62	30000	J

100[illegible]

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC5SB2-4DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29130DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5802

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 11 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/13/90

GPC Cleanup: (Y/N) N pH: 7.50 Dilution Factor: ~~9.4~~ 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	210000	U
111-44-4	bis(2-Chloroethyl)ether	210000	U
95-57-8	2-Chlorophenol	210000	U
541-73-1	1,3-Dichlorobenzene	210000	U
106-46-7	1,4-Dichlorobenzene	210000	U
100-51-6	Benzyl alcohol	210000	U
95-50-1	1,2-Dichlorobenzene	210000	U
95-48-7	2-Methylphenol	210000	U
108-60-1	bis(2-Chloroisopropyl)ether	210000	U
106-44-5	4-Methylphenol	210000	U
621-64-7	N-Nitroso-di-n-propylamine	210000	U
67-72-1	Hexachloroethane	210000	U
98-95-3	Nitrobenzene	210000	U
78-59-1	Isophorone	210000	U
88-75-5	2-Nitrophenol	210000	U
105-67-9	2,4-Dimethylphenol	210000	U
65-85-0	Benzoic Acid	1000000	U
111-91-1	bis(2-Chloroethoxy)methane	210000	U
120-83-2	2,4-Dichlorophenol	210000	U
120-82-1	1,2,4-Trichlorobenzene	210000	U
91-20-3	Naphthalene	380000	D
106-47-8	4-Chloroaniline	210000	U
87-68-3	Hexachlorobutadiene	210000	U
59-50-7	4-Chloro-3-methylphenol	210000	U
91-57-6	2-Methylnaphthalene	220000	D
77-47-4	Hexachlorocyclopentadiene	210000	U
88-06-2	2,4,6-Trichlorophenol	210000	U
95-95-4	2,4,5-Trichlorophenol	1000000	U
91-58-7	2-Chloronaphthalene	210000	U
88-74-4	2-Nitroaniline	1000000	U
131-11-3	Dimethylphthalate	210000	U
208-96-8	Acenaphthylene	210000	U
606-20-2	2,6-Dinitrotoluene	210000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC5SB2-4DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29130DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5802

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 11 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/13/90

GPC Cleanup: (Y/N) N pH: 7.50 Dilution Factor: ~~9.4~~ 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1000000	U
83-32-9	Acenaphthene	190000	DJ
51-28-5	2,4-Dinitrophenol	1000000	U
100-02-7	4-Nitrophenol	1000000	U
132-64-9	Dibenzofuran	220000	D
121-14-2	2,4-Dinitrotoluene	210000	U
84-66-2	Diethylphthalate	210000	U
7005-72-3	4-Chlorophenyl-phenylether	210000	U
86-73-7	Fluorene	440000	D
100-01-6	4-Nitroaniline	1000000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000000	U
86-30-6	N-nitrosodiphenylamine (1)	210000	U
101-55-3	4-Bromophenyl-phenylether	210000	U
118-74-1	Hexachlorobenzene	210000	U
87-86-5	Pentachlorophenol	1000000	U
85-01-8	Phenanthrene	1700000	D
120-12-7	Anthracene	370000	D
84-74-2	Di-n-butylphthalate	210000	U
206-44-0	Fluoranthene	1100000	D
129-00-0	Pyrene	790000	D
85-68-7	Butylbenzylphthalate	210000	U
91-94-1	3,3'-Dichlorobenzidine	420000	U
56-55-3	Benzo(a)anthracene	480000	D
218-01-9	Chrysene	430000	D
117-81-7	bis(2-Ethylhexyl)phthalate	210000	U
117-84-0	Di-n-octyl phthalate	210000	U
205-99-2	Benzo(b)fluoranthene	330000	D
207-08-9	Benzo(k)fluoranthene	310000	D
50-32-8	Benzo(a)pyrene	310000	D
193-39-5	Indeno(1,2,3-cd)pyrene	220000	D
53-70-3	Dibenz(a,h)anthracene	210000	U
191-24-2	Benzo(g,h,i)perylene	150000	DJ

(1) - Cannot be separated from Diphenylamine

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC5SB24'DL

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: URSNYEM SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 29130

Sample wt/vol: 1 (g/ml) G Lab File ID:

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 11 dec. Date Extracted: 08/29/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/20/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	630	U
319-85-7	beta-BHC	630	U
319-86-8	delta-BHC	630	U
58-89-9	gamma-BHC (Lindane)	630	U
76-44-8	Heptachlor	630	U
309-00-2	Aldrin	630	U
1024-57-3	Heptachlor Epoxide	630	U
959-98-8	Endosulfan I	630	U
60-57-1	Dieldrin	1300	U
72-55-9	4,4'-DDE	1300	U
72-20-8	Endrin	1300	U
33213-65-9	Endosulfan II	1300	U
72-54-8	4,4'-DDD	1300	U
1031-07-8	Endosulfan Sulfate	1300	U
50-29-3	4,4'-DDT	1300	U
72-43-5	Methoxychlor	6300	U
53494-70-5	Endrin Ketone	1300	U
5103-71-9	alpha-Chlordane	1300	U
5103-74-2	gamma-Chlordane	1300	U
8001-35-2	Toxaphene	13000	U
12674-11-2	Aroclor-1016	6300	U
11104-28-2	Aroclor-1221	6300	U
11141-16-5	Aroclor-1232	6300	U
53469-21-9	Aroclor-1242	6300	U
12672-29-6	Aroclor-1248	6300	U
11097-69-1	Aroclor-1254	13000	U
11096-82-5	Aroclor-1260	13000	U

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SC5 SB

Lab Name: VERSAR_LABORATORIES_INC.___ Contract: 35216.03__

Lab Code: VERSAR Case No.: 3348__ SAS No.: _____ SDG No.: SC10_-

Matrix (soil/water): SOIL_____ Lab Sample ID: 29130_

Level (low/med): LOW_____ Date Received: 08/22/90

% Solids: __79.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1970			P
7440-36-0	Antimony	3.4	U		P
7440-38-2	Arsenic	5.6			F
7440-39-3	Barium	21.1	B		P
7440-41-7	Beryllium	0.24	U		P
7440-43-9	Cadmium	0.73	U		P
7440-70-2	Calcium	84600			P
7440-47-3	Chromium	1.8	B		P
7440-48-4	Cobalt	2.9	B		P
7440-50-8	Copper	15.0			P
7439-89-6	Iron	5140			P
7439-92-1	Lead	16.6			F
7439-95-4	Magnesium	3040			P
7439-96-5	Manganese	53.2			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	6.3	B		P
7440-09-7	Potassium	91.3	U		P
7782-49-2	Selenium	0.73	U	W	F
7440-22-4	Silver	0.97	U		P
7440-23-5	Sodium	149	B		P
7440-28-0	Thallium	0.24	U		F
7440-62-2	Vanadium	6.8	B		P
7440-66-6	Zinc	70.0			P
	Cyanide	0.63	U		AS

Color Before: BLACK____ Clarity Before: _____ Texture: COARSE

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

_EPA_SAMPLE_NUMBER_SUFFIX_IS_2-4';_____

FORM I - IN

00019

7/88

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC6SB3-5

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29131

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5778

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 30 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.64 Dilution Factor: ~~0.93~~ 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	26000	U
111-44-4	bis(2-Chloroethyl)ether	26000	U
95-57-8	2-Chlorophenol	26000	U
541-73-1	1,3-Dichlorobenzene	26000	U
106-46-7	1,4-Dichlorobenzene	26000	U
100-51-6	Benzyl alcohol	26000	U
95-50-1	1,2-Dichlorobenzene	26000	U
95-48-7	2-Methylphenol	26000	U
108-60-1	bis(2-Chloroisopropyl)ether	26000	U
106-44-5	4-Methylphenol	26000	U
621-64-7	N-Nitroso-di-n-propylamine	26000	U
67-72-1	Hexachloroethane	26000	U
98-95-3	Nitrobenzene	26000	U
78-59-1	Isophorone	26000	U
88-75-5	2-Nitrophenol	26000	U
105-67-9	2,4-Dimethylphenol	26000	U
65-85-0	Benzoic Acid	130000	U
111-91-1	bis(2-Chloroethoxy)methane	26000	U
120-83-2	2,4-Dichlorophenol	26000	U
120-82-1	1,2,4-Trichlorobenzene	26000	U
91-20-3	Naphthalene	26000	U
106-47-8	4-Chloroaniline	26000	U
87-68-3	Hexachlorobutadiene	26000	U
59-50-7	4-Chloro-3-methylphenol	26000	U
91-57-6	2-Methylnaphthalene	26000	U
77-47-4	Hexachlorocyclopentadiene	26000	U
88-06-2	2,4,6-Trichlorophenol	26000	U
95-95-4	2,4,5-Trichlorophenol	130000	U
91-58-7	2-Chloronaphthalene	26000	U
88-74-4	2-Nitroaniline	130000	U
131-11-3	Dimethylphthalate	26000	U
208-96-8	Acenaphthylene	26000	U
606-20-2	2,6-Dinitrotoluene	26000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC6SB3-5

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29131

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5778

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 30 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.64 Dilution Factor: ~~0.93~~ 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	130000	U
83-32-9	Acenaphthene	26000	U
51-28-5	2,4-Dinitrophenol	130000	U
100-02-7	4-Nitrophenol	130000	U
132-64-9	Dibenzofuran	26000	U
121-14-2	2,4-Dinitrotoluene	26000	U
84-66-2	Diethylphthalate	26000	U
7005-72-3	4-Chlorophenyl-phenylether	26000	U
86-73-7	Fluorene	26000	U
100-01-6	4-Nitroaniline	130000	U
534-52-1	4,6-Dinitro-2-methylphenol	130000	U
86-30-6	N-nitrosodiphenylamine (1)	26000	U
101-55-3	4-Bromophenyl-phenylether	26000	U
118-74-1	Hexachlorobenzene	26000	U
87-86-5	Pentachlorophenol	130000	U
85-01-8	Phenanthrene	26000	U
120-12-7	Anthracene	26000	U
84-74-2	Di-n-butylphthalate	26000	U
206-44-0	Fluoranthene	26000	U
129-00-0	Pyrene	26000	U
85-68-7	Butylbenzylphthalate	26000	U
91-94-1	3,3'-Dichlorobenzidine	52000	U
56-55-3	Benzo(a)anthracene	26000	U
218-01-9	Chrysene	26000	U
117-81-7	bis(2-Ethylhexyl)phthalate	26000	U
117-84-0	Di-n-octyl phthalate	26000	U
205-99-2	Benzo(b)fluoranthene	26000	U
207-08-9	Benzo(k)fluoranthene	26000	U
50-32-8	Benzo(a)pyrene	26000	U
193-39-5	Indeno(1,2,3-cd)pyrene	26000	U
53-70-3	Dibenz(a,h)anthracene	26000	U
191-24-2	Benzo(g,h,i)perylene	26000	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC6SB3-5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29131

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5778

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 30 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.64 Dilution Factor: ~~0.93~~ 1.0

Number TICs found: 16 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.80	11000	J
2.		UNKNOWN SUBSTITUTED BENZENE	7.10	11000	J
3.		UNKNOWN	7.43	11000	J
4.		UNKNOWN	7.70	19000	J
5.		UNKNOWN HYDROCARBON	8.39	19000	J
6.		UNKNOWN HYDROCARBON	9.09	11000	J
7.		UNKNOWN HYDROCARBON	9.55	13000	J
8.		UNKNOWN DIMETHYL NAPHTHALENE	10.10	11000	J
9.		UNKNOWN	10.29	42000	J
10.		UNKNOWN HYDROCARBON	10.45	16000	J
11.		UNKNOWN	10.69	32000	J
12.		UNKN TRIMETHYL NAPHTHALENE	11.37	11000	J
13.		UNKNOWN HYDROCARBON	12.30	16000	J
14.		UNKNOWN HYDROCARBON	12.84	29000	J
15.		UNKNOWN HYDROCARBON	13.75	16000	J
16.		UNKNOWN	16.30	19000	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC6SB35'

Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: URSNYEM SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 29131

Sample wt/vol: 30 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 08/22/90

% Moisture: not dec. 30 dec. Date Extracted: 08/29/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/20/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	11	U
1024-57-3	Heptachlor Epoxide	11	U
959-98-8	Endosulfan I	11	U
60-57-1	Dieldrin	23	U
72-55-9	4,4'-DDE	23	U
72-20-8	Endrin	23	U
33213-65-9	Endosulfan II	23	U
72-54-8	4,4'-DDD	23	U
1031-07-8	Endosulfan Sulfate	23	U
50-29-3	4,4'-DDT	23	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin Ketone	23	U
5103-71-9	alpha-Chlordane	23	U
5103-74-2	gamma-Chlordane	23	U
8001-35-2	Toxaphene	230	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	230	U
11096-82-5	Aroclor-1260	230	U

KO 9/21/90

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SC6 SB

Lab Name: VERSAR_LABORATORIES_INC.___ Contract: 35216.03__

Lab Code: VERSAR Case No.: 3348__ SAS No.: _____ SDG No.: SC10_-

Matrix (soil/water): SOIL_____ Lab Sample ID: 29131_

Level (low/med): LOW_____ Date Received: 08/22/90

% Solids: __86.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2060			P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	46.6		+	F
7440-39-3	Barium	22.3	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.64	U		P
7440-70-2	Calcium	9720			P
7440-47-3	Chromium	6.5			P
7440-48-4	Cobalt	3.7	B		P
7440-50-8	Copper	13.0			P
7439-89-6	Iron	17100			P
7439-92-1	Lead	15.5			F
7439-95-4	Magnesium	674	B		P
7439-96-5	Manganese	197			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	7.4	B		P
7440-09-7	Potassium	146	B		P
7782-49-2	Selenium	6.6	U	W	F
7440-22-4	Silver	0.85	U		P
7440-23-5	Sodium	74.7	B		P
7440-28-0	Thallium	0.22	U		F
7440-62-2	Vanadium	8.5	B		P
7440-66-6	Zinc	39.4			P
	Cyanide	0.57	U		AS

Color Before: BLACK____ Clarity Before: _____ Texture: COARSE

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

_EPA_SAMPLE_NUMBER_SUFFIX_IS_3-5';_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC7SB75-8

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348A SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29135

Sample wt/vol: 4.0 (g/mL) G Lab File ID: Y3213

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 34 Date Analyzed: 09/13/90

Column: (pack/cap) CAP Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	19000	U
74-83-9	Bromomethane	19000	U
75-01-4	Vinyl chloride	19000	U
75-00-3	Chloroethane	19000	U
75-09-2	Methylene chloride	9500	U
67-64-1	Acetone	19000	U
75-15-0	Carbon disulfide	9500	U
75-35-4	1,1-Dichloroethene	9500	U
75-34-3	1,1-Dichloroethane	9500	U
540-59-0	1,2-Dichloroethene (total)	9500	U
67-66-3	Chloroform	9500	U
107-06-2	1,2-Dichloroethane	9500	U
78-93-3	2-Butanone	19000	U
71-55-6	1,1,1-Trichloroethane	9500	U
56-23-5	Carbon tetrachloride	9500	U
108-05-4	Vinyl acetate	19000	U
75-27-4	Bromodichloromethane	9500	U
78-87-5	1,2-Dichloropropane	9500	U
10061-01-5	cis-1,3-Dichloropropene	9500	U
79-01-6	Trichloroethene	9500	U
124-48-1	Dibromochloromethane	9500	U
79-00-5	1,1,2-Trichloroethane	9500	U
71-43-2	Benzene	6400	J
10061-02-6	Trans-1,3-dichloropropene	9500	U
75-25-2	Bromoform	9500	U
108-10-1	4-Methyl-2-pentanone	19000	U
591-78-6	2-Hexanone	19000	U
127-18-4	Tetrachloroethene	9500	U
79-34-5	1,1,2,2-Tetrachloroethane	9500	U
108-88-3	Toluene	36000	
108-90-7	Chlorobenzene	9500	U
100-41-4	Ethylbenzene	37000	
100-42-5	Styrene	9500	U
1330-20-7	Total xylenes	160000	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC7SB75-8

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348A SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29135

Sample wt/vol: 4.0 (g/mL) G Lab File ID: Y3213

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 34 Date Analyzed: 09/13/90

Column (pack/cap) CAP Dilution Factor: 10

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	21.44	25000	J
2.	108-67-8	BENZENE, 1,3,5-TRIMETHYL-	21.60	47000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC7SB6-8

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29132

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5783

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 34 dec. _____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.87 Dilution Factor: ~~0.92~~ 1.0 PB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	28000	U
111-44-4	bis(2-Chloroethyl)ether	28000	U
95-57-8	2-Chlorophenol	28000	U
541-73-1	1,3-Dichlorobenzene	28000	U
106-46-7	1,4-Dichlorobenzene	28000	U
100-51-6	Benzyl alcohol	28000	U
95-50-1	1,2-Dichlorobenzene	28000	U
95-48-7	2-Methylphenol	28000	U
108-60-1	bis(2-Chloroisopropyl)ether	28000	U
106-44-5	4-Methylphenol	28000	U
621-64-7	N-Nitroso-di-n-propylamine	28000	U
67-72-1	Hexachloroethane	28000	U
98-95-3	Nitrobenzene	28000	U
78-59-1	Isophorone	28000	U
88-75-5	2-Nitrophenol	28000	U
105-67-9	2,4-Dimethylphenol	28000	U
65-85-0	Benzoic Acid	130000	U
111-91-1	bis(2-Chloroethoxy)methane	28000	U
120-83-2	2,4-Dichlorophenol	28000	U
120-82-1	1,2,4-Trichlorobenzene	28000	U
91-20-3	Naphthalene	500000	ES
106-47-8	4-Chloroaniline	28000	U
87-68-3	Hexachlorobutadiene	28000	U
59-50-7	4-Chloro-3-methylphenol	28000	U
91-57-6	2-Methylnaphthalene	290000	
77-47-4	Hexachlorocyclopentadiene	28000	U
88-06-2	2,4,6-Trichlorophenol	28000	U
95-95-4	2,4,5-Trichlorophenol	130000	U
91-58-7	2-Chloronaphthalene	28000	U
88-74-4	2-Nitroaniline	130000	U
131-11-3	Dimethylphthalate	28000	U
208-96-8	Acenaphthylene	62000	
606-20-2	2,6-Dinitrotoluene	28000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC7SB6-8

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29132

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5783

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 34 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.87 Dilution Factor: ~~0.92~~ 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	130000	U
83-32-9	Acenaphthene	240000	
51-28-5	2,4-Dinitrophenol	130000	U
100-02-7	4-Nitrophenol	130000	U
132-64-9	Dibenzofuran	220000	
121-14-2	2,4-Dinitrotoluene	28000	U
84-66-2	Diethylphthalate	28000	U
7005-72-3	4-Chlorophenyl-phenylether	28000	U
86-73-7	Fluorene	350000	
100-01-6	4-Nitroaniline	130000	U
534-52-1	4,6-Dinitro-2-methylphenol	130000	U
86-30-6	N-nitrosodiphenylamine (1)	28000	U
101-55-3	4-Bromophenyl-phenylether	28000	U
118-74-1	Hexachlorobenzene	28000	U
87-86-5	Pentachlorophenol	130000	U
85-01-8	Phenanthrene	810000	E
120-12-7	Anthracene	200000	
84-74-2	Di-n-butylphthalate	28000	U
206-44-0	Fluoranthene	730000	ES
129-00-0	Pyrene	28000	U
85-68-7	Butylbenzylphthalate	28000	U
91-94-1	3,3'-Dichlorobenzidine	55000	U
56-55-3	Benzo(a)anthracene	440000	S
218-01-9	Chrysene	490000	E
117-81-7	bis(2-Ethylhexyl)phthalate	28000	U
117-84-0	Di-n-octyl phthalate	28000	U
205-99-2	Benzo(b)fluoranthene	480000	E
207-08-9	Benzo(k)fluoranthene	520000	E
50-32-8	Benzo(a)pyrene	400000	
193-39-5	Indeno(1,2,3-cd)pyrene	110000	
53-70-3	Dibenz(a,h)anthracene	27000	J
191-24-2	Benzo(g,h,i)perylene	82000	

(1) - Cannot be separated from Diphenylamine

100205

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC7SB6-8

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29132

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5783

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 34 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.87 Dilution Factor: ~~0.92~~ 1.0

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN SUBSTITUTED BENZENE	5.65	50000	J
2.		UNKNOWN SUBSTITUTED BENZENE	5.77	64000	J
3.		UNKNOWN HYDROCARBON	9.09	200000	J
4.		UNK POLYAROMATIC HYDROCARBON	9.80	44000	J
5.		UNKNOWN DIMETHYL NAPHTHALENE	10.09	69000	J
6.		UNKNOWN DIMETHYL NAPHTHALENE	10.27	83000	J
7.		UNK POLYAROMATIC HYDROCARBON	12.19	44000	J
8.		UNKNOWN	12.35	47000	J
9.		UNKNOWN SUBSTD 9H-FLUORENE	13.10	64000	J
10.		UNKNOWN	13.65	97000	J
11.		UNKNOWN	14.37	120000	J
12.		UNK POLYAROMATIC HYDROCARBON	14.89	120000	J
13.		UNK POLYAROMATIC HYDROCARBON	14.95	160000	J
14.		UNK POLYAROMATIC HYDROCARBON	15.02	80000	J
15.		UNK POLYAROMATIC HYDROCARBON	15.12	280000	J
16.		UNKNOWN AROMATIC HYDROCARBON	15.50	75000	J
17.		UNKNOWN	17.14	120000	J
18.		UNK POLYAROMATIC HYDROCARBON	17.47	190000	J
19.		UNK POLYAROMATIC HYDROCARBON	17.60	150000	J
20.		UNKNOWN	20.89	11000	J
21.		UNKNOWN	22.40	58000	J
22.		UNK POLYAROMATIC HYDROCARBON	22.64	240000	J
23.		UNK POLYAROMATIC HYDROCARBON	23.07	110000	J
24.		UNK POLYAROMATIC HYDROCARBON	23.57	31000	J
25.		UNKNOWN HYDROCARBON	23.74	31000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC7SB6-8DL

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29132DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5800

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 34 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/13/90

GPC Cleanup: (Y/N) N pH: 6.87 Dilution Factor: ~~1.6~~ 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	140000	U
111-44-4	bis(2-Chloroethyl)ether	140000	U
95-57-8	2-Chlorophenol	140000	U
541-73-1	1,3-Dichlorobenzene	140000	U
106-46-7	1,4-Dichlorobenzene	140000	U
100-51-6	Benzyl alcohol	140000	U
95-50-1	1,2-Dichlorobenzene	140000	U
95-48-7	2-Methylphenol	140000	U
108-60-1	bis(2-Chloroisopropyl)ether	140000	U
106-44-5	4-Methylphenol	140000	U
621-64-7	N-Nitroso-di-n-propylamine	140000	U
67-72-1	Hexachloroethane	140000	U
98-95-3	Nitrobenzene	140000	U
78-59-1	Isophorone	140000	U
88-75-5	2-Nitrophenol	140000	U
105-67-9	2,4-Dimethylphenol	140000	U
65-85-0	Benzoic Acid	670000	U
111-91-1	bis(2-Chloroethoxy)methane	140000	U
120-83-2	2,4-Dichlorophenol	140000	U
120-82-1	1,2,4-Trichlorobenzene	140000	U
91-20-3	Naphthalene	540000	D
106-47-8	4-Chloroaniline	140000	U
87-68-3	Hexachlorobutadiene	140000	U
59-50-7	4-Chloro-3-methylphenol	140000	U
91-57-6	2-Methylnaphthalene	250000	D
77-47-4	Hexachlorocyclopentadiene	140000	U
88-06-2	2,4,6-Trichlorophenol	140000	U
95-95-4	2,4,5-Trichlorophenol	670000	U
91-58-7	2-Chloronaphthalene	140000	U
88-74-4	2-Nitroaniline	670000	U
131-11-3	Dimethylphthalate	140000	U
208-96-8	Acenaphthylene	140000	U
606-20-2	2,6-Dinitrotoluene	140000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC7SB6-8DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29132DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5800

Level: (low/med) MED Date Received: 08/22/90

% Moisture: not dec. 34 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/13/90

GPC Cleanup: (Y/N) N pH: 6.87 Dilution Factor: ~~4.6~~ 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	670000	U
83-32-9	Acenaphthene	210000	D
51-28-5	2,4-Dinitrophenol	670000	U
100-02-7	4-Nitrophenol	670000	U
132-64-9	Dibenzofuran	190000	D
121-14-2	2,4-Dinitrotoluene	140000	U
84-66-2	Diethylphthalate	140000	U
7005-72-3	4-Chlorophenyl-phenylether	140000	U
86-73-7	Fluorene	280000	D
100-01-6	4-Nitroaniline	670000	U
534-52-1	4,6-Dinitro-2-methylphenol	670000	U
86-30-6	N-nitrosodiphenylamine (1)	140000	U
101-55-3	4-Bromophenyl-phenylether	140000	U
118-74-1	Hexachlorobenzene	140000	U
87-86-5	Pentachlorophenol	670000	U
85-01-8	Phenanthrene	1000000	D
120-12-7	Anthracene	190000	D
84-74-2	Di-n-butylphthalate	140000	U
206-44-0	Fluoranthene	930000	D
129-00-0	Pyrene	640000	DX
85-68-7	Butylbenzylphthalate	140000	U
91-94-1	3,3'-Dichlorobenzidine	280000	U
56-55-3	Benzo(a)anthracene	440000	D
218-01-9	Chrysene	430000	D
117-81-7	bis(2-Ethylhexyl)phthalate	140000	U
117-84-0	Di-n-octyl phthalate	140000	U
205-99-2	Benzo(b)fluoranthene	330000	D
207-08-9	Benzo(k)fluoranthene	350000	D
50-32-8	Benzo(a)pyrene	340000	D
193-39-5	Indeno(1,2,3-cd)pyrene	250000	D
53-70-3	Dibenz(a,h)anthracene	140000	U
191-24-2	Benzo(g,h,i)perylene	200000	D

(1) - Cannot be separated from Diphenylamine

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC7SB68'

Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: URSNYEM SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 29132

Sample wt/vol: 30 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 08/22/90

% Moisture: not dec. 35 dec. Date Extracted: 08/29/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/20/90

GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12	U
319-85-7	beta-BHC	12	U
319-86-8	delta-BHC	12	U
58-89-9	gamma-BHC (Lindane)	32	X
76-44-8	Heptachlor	12	U
309-00-2	Aldrin	12	U
1024-57-3	Heptachlor Epoxide	12	U
959-98-8	Endosulfan I	12	U
60-57-1	Dieldrin	24	U
72-55-9	4,4'-DDE	120	X
72-20-8	Endrin	50	X
33213-65-9	Endosulfan II	190	X
72-54-8	4,4'-DDD	75	X
1031-07-8	Endosulfan Sulfate	24	U
50-29-3	4,4'-DDT	2100	X
72-43-5	Methoxychlor	6200	X
53494-70-5	Endrin Ketone	580	X
5103-71-9	alpha-Chlordane	24	U
5103-74-2	gamma-Chlordane	230	X
8001-35-2	Toxaphene	240	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	5200	
11096-82-5	Aroclor-1260	240	U

KC 9/21/90

X - POOR AGREEMENT BETWEEN QUANTITATION AND CONFIRMATION RESULTS.

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SC7 SB

Lab Name: VERSAR_LABORATORIES_INC.___ Contract: 35216.03__

Lab Code: VERSAR Case No.: 3348__ SAS No.: _____ SDG No.: SC10_-

Matrix (soil/water): SOIL_____ Lab Sample ID: 29132_

Level (low/med): LOW_____ Date Received: 08/22/90

% Solids: __80.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15200			P
7440-36-0	Antimony	3.2	U		P
7440-38-2	Arsenic	4.7			F
7440-39-3	Barium	64.4			P
7440-41-7	Beryllium	0.71	B		P
7440-43-9	Cadmium	0.70	U		P
7440-70-2	Calcium	9960			P
7440-47-3	Chromium	23.6			P
7440-48-4	Cobalt	11.6	B		P
7440-50-8	Copper	37.6			P
7439-89-6	Iron	22900			P
7439-92-1	Lead	18.2		S	F
7439-95-4	Magnesium	6430			P
7439-96-5	Manganese	377			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	28.2			P
7440-09-7	Potassium	3240			P
7782-49-2	Selenium	0.82	B		F
7440-22-4	Silver	0.93	U		P
7440-23-5	Sodium	519	B		P
7440-28-0	Thallium	0.23	U		F
7440-62-2	Vanadium	29.3			P
7440-66-6	Zinc	81.3			P
	Cyanide	2.9			AS

Color Before: BLACK____ Clarity Before: _____ Texture: COARSE

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

_EPA_SAMPLE_NUMBER_SUFFIX_IS_6-8';_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC8SB-95-10

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 29285

Sample wt/vol: 4.0 (g/mL) G Lab File ID: W3436

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 32 Date Analyzed: 09/04/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1800	U
74-83-9	Bromomethane	1800	U
75-01-4	Vinyl chloride	1800	U
75-00-3	Chloroethane	1800	U
75-09-2	Methylene chloride	1200	B
67-64-1	Acetone	1800	U
75-15-0	Carbon disulfide	920	U
75-35-4	1,1-Dichloroethene	920	U
75-34-3	1,1-Dichloroethane	920	U
540-59-0	1,2-Dichloroethene (total)	920	U
67-66-3	Chloroform	920	U
107-06-2	1,2-Dichloroethane	920	U
78-93-3	2-Butanone	1800	U
71-55-6	1,1,1-Trichloroethane	920	U
56-23-5	Carbon tetrachloride	920	U
108-05-4	Vinyl acetate	1800	U
75-27-4	Bromodichloromethane	920	U
78-87-5	1,2-Dichloropropane	920	U
10061-01-5	cis-1,3-Dichloropropene	920	U
79-01-6	Trichloroethene	920	U
124-48-1	Dibromochloromethane	920	U
79-00-5	1,1,2-Trichloroethane	920	U
71-43-2	Benzene	760	J
10061-02-6	Trans-1,3-dichloropropene	920	U
75-25-2	Bromoform	920	U
108-10-1	4-Methyl-2-pentanone	1800	U
591-78-6	2-Hexanone	1800	U
127-18-4	Tetrachloroethene	920	U
79-34-5	1,1,2,2-Tetrachloroethane	920	U
108-88-3	Toluene	920	U
108-90-7	Chlorobenzene	920	U
100-41-4	Ethylbenzene	13000	
100-42-5	Styrene	920	U
1330-20-7	Total xylenes	18000	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC8SB-95-10

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 29285

Sample wt/vol: 4.0 (g/mL) G Lab File ID: W3436

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 32 Date Analyzed: 09/04/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124-38-9	CARBON DIOXIDE (ACN)	5.20	3900	BJ
2.		UNK AROMATIC HYDROCARBON	9.74	1100	J
3.		UNK AROMATIC HYDROCARBON	10.44	920	J
4.		UNK AROMATIC HYDROCARBON	10.89	1100	J
5.		UNK AROMATIC HYDROCARBON	11.04	1100	J
6.		UNK AROMATIC HYDROCARBON	11.15	1500	J
7.		UNK AROMATIC HYDROCARBON	15.54	21000	J
8.	275-51-4	AZULENE	15.67	41000	J
9.		UNK SUBSTITUTED BENZENE	18.34	1700	J
10.		UNKNOWN HYDROCARBON	18.59	1100	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SCBSB8-10

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29280

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5780

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 32 dec. _____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.79 Dilution Factor: ~~0.94~~ 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	27000	U
111-44-4	bis(2-Chloroethyl)ether	27000	U
95-57-8	2-Chlorophenol	27000	U
541-73-1	1,3-Dichlorobenzene	27000	U
106-46-7	1,4-Dichlorobenzene	27000	U
100-51-6	Benzyl alcohol	27000	U
95-50-1	1,2-Dichlorobenzene	27000	U
95-48-7	2-Methylphenol	27000	U
108-60-1	bis(2-Chloroisopropyl)ether	27000	U
106-44-5	4-Methylphenol	27000	U
621-64-7	N-Nitroso-di-n-propylamine	27000	U
67-72-1	Hexachloroethane	27000	U
98-95-3	Nitrobenzene	27000	U
78-59-1	Isophorone	27000	U
88-75-5	2-Nitrophenol	27000	U
105-67-9	2,4-Dimethylphenol	27000	U
65-85-0	Benzoic Acid	130000	U
111-91-1	bis(2-Chloroethoxy)methane	27000	U
120-83-2	2,4-Dichlorophenol	27000	U
120-82-1	1,2,4-Trichlorobenzene	27000	U
91-20-3	Naphthalene	74000	
106-47-8	4-Chloroaniline	27000	U
87-68-3	Hexachlorobutadiene	27000	U
59-50-7	4-Chloro-3-methylphenol	27000	U
91-57-6	2-Methylnaphthalene	70000	
77-47-4	Hexachlorocyclopentadiene	27000	U
88-06-2	2,4,6-Trichlorophenol	27000	U
95-95-4	2,4,5-Trichlorophenol	130000	U
91-58-7	2-Chloronaphthalene	27000	U
88-74-4	2-Nitroaniline	130000	U
131-11-3	Dimethylphthalate	27000	U
208-96-8	Acenaphthylene	27000	U
606-20-2	2,6-Dinitrotoluene	27000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SCBSB8-10

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29280

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5780

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 32 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.79 Dilution Factor: ~~0.94~~ 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	130000	U
83-32-9	Acenaphthene	53000	
51-28-5	2,4-Dinitrophenol	130000	U
100-02-7	4-Nitrophenol	130000	U
132-64-9	Dibenzofuran	27000	U
121-14-2	2,4-Dinitrotoluene	27000	U
84-66-2	Diethylphthalate	27000	U
7005-72-3	4-Chlorophenyl-phenylether	27000	U
86-73-7	Fluorene	61000	
100-01-6	4-Nitroaniline	130000	U
534-52-1	4,6-Dinitro-2-methylphenol	130000	U
86-30-6	N-nitrosodiphenylamine (1)	27000	U
101-55-3	4-Bromophenyl-phenylether	27000	U
118-74-1	Hexachlorobenzene	27000	U
87-86-5	Pentachlorophenol	130000	U
85-01-8	Phenanthrene	170000	
120-12-7	Anthracene	49000	
84-74-2	Di-n-butylphthalate	27000	U
206-44-0	Fluoranthene	55000	
129-00-0	Pyrene	97000	
85-68-7	Butylbenzylphthalate	27000	U
91-94-1	3,3'-Dichlorobenzidine	55000	U
56-55-3	Benzo(a)anthracene	27000	U
218-01-9	Chrysene	40000	
117-81-7	bis(2-Ethylhexyl)phthalate	27000	U
117-84-0	Di-n-octyl phthalate	27000	U
205-99-2	Benzo(b)fluoranthene	13000	J
207-08-9	Benzo(k)fluoranthene	21000	J
50-32-8	Benzo(a)pyrene	24000	J
193-39-5	Indeno(1,2,3-cd)pyrene	27000	U
53-70-3	Dibenz(a,h)anthracene	27000	U
191-24-2	Benzo(g,h,i)perylene	27000	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SCBSB8-10

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29280

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5780

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 32 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.79 Dilution Factor: ~~0.94~~ 1.0

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	9.09	81000	J
2.		UNKNOWN SUBSTD NAPHTHALENE	9.99	28000	J
3.		UNKNOWN DIMETHYL NAPHTHALENE	10.09	36000	J
4.		UNKNOWN DIMETHYL NAPHTHALENE	10.27	64000	J
5.		UNKNOWN SUBSTD NAPHTHALENE	10.49	25000	J
6.		UNKNOWN SUBSTD NAPHTHALENE	10.67	14000	J
7.		UNKNOWN SUBSTD NAPHTHALENE	11.14	11000	J
8.		UNKNOWN SUBSTD NAPHTHALENE	11.42	17000	J
9.		UNKNOWN SUBSTD NAPHTHALENE	11.59	17000	J
10.		UNKNOWN	11.95	14000	J
11.		UNKNOWN	12.12	11000	J
12.		UNKNOWN METHYL 9H-FLUORENE	13.10	19000	J
13.		UNKNOWN	13.17	17000	J
14.		UNKNOWN METHYL 9H-FLUORENE	13.29	14000	J
15.	610-48-0	ANTHRACENE, 1-METHYL-	14.94	56000	J
16.		UNK POLYAROMATIC HYDROCARBON	15.02	22000	J
17.		UNK POLYAROMATIC HYDROCARBON	15.12	75000	J
18.		UNK POLYAROMATIC HYDROCARBON	16.02	22000	J
19.		UNK POLYAROMATIC HYDROCARBON	16.09	19000	J
20.		UNK POLYAROMATIC HYDROCARBON	16.49	25000	J
21.		UNK POLYAROMATIC HYDROCARBON	17.45	31000	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC8SB810

1 Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: URSNYEM SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 29280

Sample wt/vol: 30 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 08/23/90

% Moisture: not dec. 32 dec. Date Extracted: 08/29/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/21/90

GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12	U
319-85-7	beta-BHC	12	U
319-86-8	delta-BHC	12	U
58-89-9	gamma-BHC (Lindane)	12	U
76-44-8	Heptachlor	12	U
309-00-2	Aldrin	12	U
1024-57-3	Heptachlor Epoxide	12	U
959-98-8	Endosulfan I	120	X
60-57-1	Dieldrin	23	U
72-55-9	4,4'-DDE	23	U
72-20-8	Endrin	23	U
33213-65-9	Endosulfan II	23	U
72-54-8	4,4'-DDD	23	U
1031-07-8	Endosulfan Sulfate	23	U
50-29-3	4,4'-DDT	23	U
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin Ketone	23	U
5103-71-9	alpha-Chlordane	23	U
5103-74-2	gamma-Chlordane	23	U
8001-35-2	Toxaphene	230	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	230	U
11096-82-5	Aroclor-1260	230	U

X - RESULT INFLATED DUE TO MATRIX INTERFERENCE.

09/25/90

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SC8 -

Lab Name: VERSAR_LABORATORIES_INC.___ Contract: 35216.03__

Lab Code: VERSAR Case No.: 3348__ SAS No.: _____ SDG No.: SC10_-

Matrix (soil/water): SOIL_____ Lab Sample ID: 29276_

Level (low/med): LOW_____ Date Received: 08/23/90

% Solids: __71.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17000			P
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	6.9			F
7440-39-3	Barium	121			P
7440-41-7	Beryllium	0.79	B		P
7440-43-9	Cadmium	0.80	U		P
7440-70-2	Calcium	7140			P
7440-47-3	Chromium	22.7			P
7440-48-4	Cobalt	10.3	B		P
7440-50-8	Copper	32.7			P
7439-89-6	Iron	26300			P
7439-92-1	Lead	30.6			F
7439-95-4	Magnesium	5490			P
7439-96-5	Manganese	333			P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	28.2			P
7440-09-7	Potassium	1970			P
7782-49-2	Selenium	0.81	U		F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	94.6	B		P
7440-28-0	Thallium	0.27	U		F
7440-62-2	Vanadium	30.3			P
7440-66-6	Zinc	88.7			P
	Cyanide	0.69	U		AS

Color Before: BLACK____ Clarity Before: _____ Texture: COARSE

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

_EPA_SAMPLE_NUMBER_SUFFIX_IS_SB_8-10;_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9SB-35-4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 29286

Sample wt/vol: 4.0 (g/mL) G Lab File ID: W3465

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 28 Date Analyzed: 09/05/90

Column: (pack/cap) CAP Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	17000	U
74-83-9	Bromomethane	17000	U
75-01-4	Vinyl chloride	17000	U
75-00-3	Chloroethane	17000	U
75-09-2	Methylene chloride	8700	U
67-64-1	Acetone	17000	U
75-15-0	Carbon disulfide	8700	U
75-35-4	1,1-Dichloroethene	8700	U
75-34-3	1,1-Dichloroethane	8700	U
540-59-0	1,2-Dichloroethene (total)	8700	U
67-66-3	Chloroform	8700	U
107-06-2	1,2-Dichloroethane	8700	U
78-93-3	2-Butanone	17000	U
71-55-6	1,1,1-Trichloroethane	8700	U
56-23-5	Carbon tetrachloride	8700	U
108-05-4	Vinyl acetate	17000	U
75-27-4	Bromodichloromethane	8700	U
78-87-5	1,2-Dichloropropane	8700	U
10061-01-5	cis-1,3-Dichloropropene	8700	U
79-01-6	Trichloroethene	8700	U
124-48-1	Dibromochloromethane	8700	U
79-00-5	1,1,2-Trichloroethane	8700	U
71-43-2	Benzene	13000	
10061-02-6	Trans-1,3-dichloropropene	8700	U
75-25-2	Bromoform	8700	U
108-10-1	4-Methyl-2-pentanone	17000	U
591-78-6	2-Hexanone	17000	U
127-18-4	Tetrachloroethene	8700	U
79-34-5	1,1,2,2-Tetrachloroethane	8700	U
108-88-3	Toluene	8700	U
108-90-7	Chlorobenzene	8700	U
100-41-4	Ethylbenzene	99000	
100-42-5	Styrene	8700	U
1330-20-7	Total xylenes	220000	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC9SB-35-4

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 29286

Sample wt/vol: 4.0 (g/mL) G Lab File ID: W3465

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 28 Date Analyzed: 09/05/90

Column (pack/cap) CAP Dilution Factor: 10

Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124-38-9	CARBON DIOXIDE (ACN)	5.22	66000	BJ
2.		UNK AROMATIC HYDROCARBON	8.77	8700	J
3.	65051-83-4	BENZENE, (1-METHYL-2-CYCLOPR	10.85	14000	J
4.	275-51-4	AZULENE	16.29	580000	J
5.	98-82-8	BENZENE, (1-METHYLETHYL)-	18.37	24000	J
6.		UNKNOWN HYDROCARBON	18.62	16000	J
7.		UNKNOWN	19.19	21000	J
8.		UNK SUBSTITUTED BENZENE	19.34	73000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9SB2-4

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29281

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5784

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.90 Dilution Factor: ~~0.96~~ 1.0 JB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	26000	U
111-44-4	bis(2-Chloroethyl)ether	26000	U
95-57-8	2-Chlorophenol	26000	U
541-73-1	1,3-Dichlorobenzene	26000	U
106-46-7	1,4-Dichlorobenzene	26000	U
100-51-6	Benzyl alcohol	26000	U
95-50-1	1,2-Dichlorobenzene	26000	U
95-48-7	2-Methylphenol	26000	U
108-60-1	bis(2-Chloroisopropyl)ether	26000	U
106-44-5	4-Methylphenol	26000	U
621-64-7	N-Nitroso-di-n-propylamine	26000	U
67-72-1	Hexachloroethane	26000	U
98-95-3	Nitrobenzene	26000	U
78-59-1	Isophorone	26000	U
88-75-5	2-Nitrophenol	26000	U
105-67-9	2,4-Dimethylphenol	26000	U
65-85-0	Benzoic Acid	130000	U
111-91-1	bis(2-Chloroethoxy)methane	26000	U
120-83-2	2,4-Dichlorophenol	26000	U
120-82-1	1,2,4-Trichlorobenzene	26000	U
91-20-3	Naphthalene	370000	S
106-47-8	4-Chloroaniline	26000	U
87-68-3	Hexachlorobutadiene	26000	U
59-50-7	4-Chloro-3-methylphenol	26000	U
91-57-6	2-Methylnaphthalene	140000	
77-47-4	Hexachlorocyclopentadiene	26000	U
88-06-2	2,4,6-Trichlorophenol	26000	U
95-95-4	2,4,5-Trichlorophenol	130000	U
91-58-7	2-Chloronaphthalene	26000	U
88-74-4	2-Nitroaniline	130000	U
131-11-3	Dimethylphthalate	26000	U
208-96-8	Acenaphthylene	16000	J
606-20-2	2,6-Dinitrotoluene	26000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9SB2-4

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29281

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5784

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.90 Dilution Factor: ~~0.96~~ 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	130000	U
83-32-9	Acenaphthene	38000	
51-28-5	2,4-Dinitrophenol	130000	U
100-02-7	4-Nitrophenol	130000	U
132-64-9	Dibenzofuran	57000	
121-14-2	2,4-Dinitrotoluene	26000	U
84-66-2	Diethylphthalate	26000	U
7005-72-3	4-Chlorophenyl-phenylether	26000	U
86-73-7	Fluorene	85000	
100-01-6	4-Nitroaniline	130000	U
534-52-1	4,6-Dinitro-2-methylphenol	130000	U
86-30-6	N-nitrosodiphenylamine (1)	26000	U
101-55-3	4-Bromophenyl-phenylether	26000	U
118-74-1	Hexachlorobenzene	26000	U
87-86-5	Pentachlorophenol	130000	U
85-01-8	Phenanthrene	260000	S
120-12-7	Anthracene	79000	
84-74-2	Di-n-butylphthalate	26000	U
206-44-0	Fluoranthene	220000	
129-00-0	Pyrene	190000	
85-68-7	Butylbenzylphthalate	26000	U
91-94-1	3,3'-Dichlorobenzidine	53000	U
56-55-3	Benzo(a)anthracene	98000	
218-01-9	Chrysene	100000	
117-81-7	bis(2-Ethylhexyl)phthalate	26000	U
117-84-0	Di-n-octyl phthalate	26000	U
205-99-2	Benzo(b)fluoranthene	97000	
207-08-9	Benzo(k)fluoranthene	110000	
50-32-8	Benzo(a)pyrene	90000	
193-39-5	Indeno(1,2,3-cd)pyrene	31000	
53-70-3	Dibenz(a,h)anthracene	26000	U
191-24-2	Benzo(g,h,i)perylene	21000	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC9SB2-4

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29281

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5784

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/11/90

GPC Cleanup: (Y/N) N pH: 6.90 Dilution Factor: 0.96 1.0

Number TICs found: 27

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN SUBSTITUTED BENZENE	4.63	21000	J
2.		UNKNOWN SUBSTITUTED BENZENE	4.72	27000	J
3.		UNKNOWN SUBSTITUTED BENZENE	5.05	75000	J
		UNKNOWN SUBSTITUTED BENZENE	5.45	29000	J
5.		UNKNOWN SUBSTITUTED BENZENE	5.63	100000	J
6.		UNKNOWN	7.08	37000	J
7.		UNKNOWN	9.07	96000	J
8.		UNKNOWN	9.80	24000	J
9.		UNKNOWN SUBSTD NAPHTHALENE	10.09	45000	J
10.		UNKNOWN SUBSTD NAPHTHALENE	10.25	53000	J
11.		UNKNOWN HYDROCARBON	10.44	19000	J
12.		UNKNOWN SUBSTD NAPHTHALENE	10.65	21000	J
13.		UNKNOWN SUBSTD NAPHTHALENE	11.40	16000	J
14.		UNKNOWN HYDROCARBON	12.80	29000	J
15.		UNK POLYAROMATIC HYDROCARBON	14.89	37000	J
16.		UNK POLYAROMATIC HYDROCARBON	14.97	21000	J
17.		UNK POLYAROMATIC HYDROCARBON	15.07	67000	J
18.		UNKNOWN	15.45	16000	J
19.		UNK POLYAROMATIC HYDROCARBON	16.04	13000	J
20.		UNKNOWN	16.84	21000	J
21.		UNK POLYAROMATIC HYDROCARBON	17.40	61000	J
22.		UNK POLYAROMATIC HYDROCARBON	17.54	48000	J
23.		UNK POLYAROMATIC HYDROCARBON	17.60	29000	J
24.		UNK POLYAROMATIC HYDROCARBON	18.72	24000	J
25.		UNK POLYAROMATIC HYDROCARBON	22.02	37000	J
26.		UNKNOWN	22.34	19000	J
27.		UNK POLYAROMATIC HYDROCARBON	22.55	61000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9SB2-4DL

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29281DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5801

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/13/90

GPC Cleanup: (Y/N) N pH: 6.90 Dilution Factor: ~~1.9~~ 2.0 JB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	53000	U
111-44-4	bis(2-Chloroethyl)ether	53000	U
95-57-8	2-Chlorophenol	53000	U
541-73-1	1,3-Dichlorobenzene	53000	U
106-46-7	1,4-Dichlorobenzene	53000	U
100-51-6	Benzyl alcohol	53000	U
95-50-1	1,2-Dichlorobenzene	53000	U
95-48-7	2-Methylphenol	53000	U
108-60-1	bis(2-Chloroisopropyl)ether	53000	U
106-44-5	4-Methylphenol	53000	U
621-64-7	N-Nitroso-di-n-propylamine	53000	U
67-72-1	Hexachloroethane	53000	U
98-95-3	Nitrobenzene	53000	U
78-59-1	Isophorone	53000	U
88-75-5	2-Nitrophenol	53000	U
105-67-9	2,4-Dimethylphenol	53000	U
65-85-0	Benzoic Acid	260000	U
111-91-1	bis(2-Chloroethoxy)methane	53000	U
120-83-2	2,4-Dichlorophenol	53000	U
120-82-1	1,2,4-Trichlorobenzene	53000	U
91-20-3	Naphthalene	330000	D
106-47-8	4-Chloroaniline	53000	U
87-68-3	Hexachlorobutadiene	53000	U
59-50-7	4-Chloro-3-methylphenol	53000	U
91-57-6	2-Methylnaphthalene	130000	D
77-47-4	Hexachlorocyclopentadiene	53000	U
88-06-2	2,4,6-Trichlorophenol	53000	U
95-95-4	2,4,5-Trichlorophenol	260000	U
91-58-7	2-Chloronaphthalene	53000	U
88-74-4	2-Nitroaniline	260000	U
131-11-3	Dimethylphthalate	53000	U
208-96-8	Acenaphthylene	14000	DJ
606-20-2	2,6-Dinitrotoluene	53000	U

200320

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9SB2-4DL

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3348 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 29281DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: Z5801

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 08/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/13/90

GPC Cleanup: (Y/N) N pH: 6.90 Dilution Factor: ~~1.9~~ 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	260000	U
83-32-9	Acenaphthene	34000	DJ
51-28-5	2,4-Dinitrophenol	260000	U
100-02-7	4-Nitrophenol	260000	U
132-64-9	Dibenzofuran	47000	DJ
121-14-2	2,4-Dinitrotoluene	53000	U
84-66-2	Diethylphthalate	53000	U
7005-72-3	4-Chlorophenyl-phenylether	53000	U
86-73-7	Fluorene	68000	D
100-01-6	4-Nitroaniline	260000	U
534-52-1	4,6-Dinitro-2-methylphenol	260000	U
86-30-6	N-nitrosodiphenylamine (1)	53000	U
101-55-3	4-Bromophenyl-phenylether	53000	U
118-74-1	Hexachlorobenzene	53000	U
87-86-5	Pentachlorophenol	260000	U
85-01-8	Phenanthrene	270000	D
120-12-7	Anthracene	72000	D
84-74-2	Di-n-butylphthalate	53000	U
206-44-0	Fluoranthene	200000	D
129-00-0	Pyrene	170000	D
85-68-7	Butylbenzylphthalate	53000	U
91-94-1	3,3'-Dichlorobenzidine	110000	U
56-55-3	Benzo(a)anthracene	100000	D
218-01-9	Chrysene	100000	D
117-81-7	bis(2-Ethylhexyl)phthalate	53000	U
117-84-0	Di-n-octyl phthalate	53000	U
205-99-2	Benzo(b)fluoranthene	72000	D
207-08-9	Benzo(k)fluoranthene	78000	D
50-32-8	Benzo(a)pyrene	80000	D
193-39-5	Indeno(1,2,3-cd)pyrene	59000	D
53-70-3	Dibenz(a,h)anthracene	53000	U
191-24-2	Benzo(g,h,i)perylene	44000	DJ

(1) - Cannot be separated from Diphenylamine

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9SB24' DL

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: URSNYEM SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 29281

Sample wt/vol: 1 (g/ml) G Lab File ID:

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 28 dec. Date Extracted: 08/29/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/14/90

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	810	U
319-85-7	beta-BHC	810	U
319-86-8	delta-BHC	810	U
58-89-9	gamma-BHC (Lindane)	810	U
76-44-8	Heptachlor	810	U
309-00-2	Aldrin	810	U
1024-57-3	Heptachlor Epoxide	810	U
959-98-8	Endosulfan I	810	U
60-57-1	Dieldrin	1600	U
72-55-9	4,4'-DDE	1600	U
72-20-8	Endrin	1600	U
33213-65-9	Endosulfan II	1600	U
72-54-8	4,4'-DDD	1600	U
1031-07-8	Endosulfan Sulfate	1600	U
50-29-3	4,4'-DDT	1600	U
72-43-5	Methoxychlor	8100	U
53494-70-5	Endrin Ketone	1600	U
5103-71-9	alpha-Chlordane	1600	U
5103-74-2	gamma-Chlordane	1600	U
8001-35-2	Toxaphene	16000	U
12674-11-2	Aroclor-1016	8100	U
11104-28-2	Aroclor-1221	8100	U
11141-16-5	Aroclor-1232	8100	U
53469-21-9	Aroclor-1242	8100	U
12672-29-6	Aroclor-1248	8100	U
11097-69-1	Aroclor-1254	16000	U
11096-82-5	Aroclor-1260	16000	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL4SB-15-2

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 29288

Sample wt/vol: 4.0 (g/mL) G Lab File ID: W3439

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 12 Date Analyzed: 09/04/90

Column: (pack/cap) CAP Dilution Factor: 20

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	28000	U
74-83-9	Bromomethane	28000	U
75-01-4	Vinyl chloride	28000	U
75-00-3	Chloroethane	28000	U
75-09-2	Methylene chloride	27000	B
67-64-1	Acetone	28000	U
75-15-0	Carbon disulfide	14000	U
75-35-4	1,1-Dichloroethene	14000	U
75-34-3	1,1-Dichloroethane	14000	U
540-59-0	1,2-Dichloroethene (total)	14000	U
67-66-3	Chloroform	14000	U
107-06-2	1,2-Dichloroethane	14000	U
78-93-3	2-Butanone	28000	U
71-55-6	1,1,1-Trichloroethane	14000	U
56-23-5	Carbon tetrachloride	14000	U
108-05-4	Vinyl acetate	28000	U
75-27-4	Bromodichloromethane	14000	U
78-87-5	1,2-Dichloropropane	14000	U
10061-01-5	cis-1,3-Dichloropropene	14000	U
79-01-6	Trichloroethene	14000	U
124-48-1	Dibromochloromethane	14000	U
79-00-5	1,1,2-Trichloroethane	14000	U
71-43-2	Benzene	14000	U
10061-02-6	Trans-1,3-dichloropropene	14000	U
75-25-2	Bromoform	14000	U
108-10-1	4-Methyl-2-pentanone	28000	U
591-78-6	2-Hexanone	28000	U
127-18-4	Tetrachloroethene	14000	U
79-34-5	1,1,2,2-Tetrachloroethane	14000	U
108-88-3	Toluene	25000	X
108-90-7	Chlorobenzene	14000	U
100-41-4	Ethylbenzene	110000	
100-42-5	Styrene	14000	U
1330-20-7	Total xylenes	160000	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SOIL4SB-15-2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 29288

Sample wt/vol: 4.0 (g/mL) G Lab File ID: W3439

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 12 Date Analyzed: 09/04/90

Column (pack/cap) CAP Dilution Factor: 20

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124-38-9	CARBON DIOXIDE	5.20	31000	BJ
2.		UNK AROMATIC HYDROCARBON	13.24	310000	J
3.		UNK AROMATIC HYDROCARBON	13.39	490000	J
4.		UNK AROMATIC HYDROCARBON	13.47	290000	J
5.	95-15-8	BENZO[B]THIOPHENE	14.84	28000	J
6.	95-15-8	BENZO[B]THIOPHENE	15.00	23000	J
7.		UNK SUBSTITUTED BENZENE	16.74	180000	J
8.		UNK DIMETHYL NAPHTHALENE	17.84	23000	J
9.		UNK SUBSTITUTED BENZENE	18.34	31000	J
10.		UNKNOWN	19.14	23000	J
11.		UNK SUBSTITUTED BENZENE	19.32	110000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL4SB1535

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359A SAS No.: _____ SDG No.: B2

Matrix: (soil/water) SOIL Lab Sample ID: 29283

Sample wt/vol: 1.0 (g/mL) G Lab File ID: T4428

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 12 dec. ____ Date Extracted: 09/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/10/90

GPC Cleanup: (Y/N) N pH: 7.00 Dilution Factor: 4.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	100000	U
111-44-4	bis(2-Chloroethyl)ether	100000	U
95-57-8	2-Chlorophenol	100000	U
541-73-1	1,3-Dichlorobenzene	100000	U
106-46-7	1,4-Dichlorobenzene	100000	U
100-51-6	Benzyl alcohol	100000	U
95-50-1	1,2-Dichlorobenzene	100000	U
95-48-7	2-Methylphenol	100000	U
108-60-1	bis(2-Chloroisopropyl)ether	100000	U
106-44-5	4-Methylphenol	100000	U
621-64-7	N-Nitroso-di-n-propylamine	100000	U
67-72-1	Hexachloroethane	100000	U
98-95-3	Nitrobenzene	100000	U
78-59-1	Isophorone	100000	U
88-75-5	2-Nitrophenol	100000	U
105-67-9	2,4-Dimethylphenol	100000	U
65-85-0	Benzoic Acid	500000	U
111-91-1	bis(2-Chloroethoxy)methane	100000	U
120-83-2	2,4-Dichlorophenol	100000	U
120-82-1	1,2,4-Trichlorobenzene	100000	U
91-20-3	Naphthalene	1600000	Saturated
106-47-8	4-Chloroaniline	100000	U
87-68-3	Hexachlorobutadiene	100000	U
59-50-7	4-Chloro-3-methylphenol	100000	U
91-57-6	2-Methylnaphthalene	1400000	Saturated
77-47-4	Hexachlorocyclopentadiene	100000	U
88-06-2	2,4,6-Trichlorophenol	100000	U
95-95-4	2,4,5-Trichlorophenol	500000	U
91-58-7	2-Chloronaphthalene	100000	U
88-74-4	2-Nitroaniline	500000	U
131-11-3	Dimethylphthalate	100000	U
208-96-8	Acenaphthylene	250000	
606-20-2	2,6-Dinitrotoluene	100000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL4SB1535

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359A SAS No.: _____ SDG No.: B2

Matrix: (soil/water) SOIL Lab Sample ID: 29283

Sample wt/vol: 1.0 (g/mL) G Lab File ID: T4428

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 12 dec. ____ Date Extracted: 09/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/10/90

GPC Cleanup: (Y/N) N pH: 7.00 Dilution Factor: 4.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	500000	U
83-32-9	Acenaphthene	480000	
51-28-5	2,4-Dinitrophenol	500000	U
100-02-7	4-Nitrophenol	500000	U
132-64-9	Dibenzofuran	340000	
121-14-2	2,4-Dinitrotoluene	100000	U
84-66-2	Diethylphthalate	100000	U
7005-72-3	4-Chlorophenyl-phenylether	100000	U
86-73-7	Fluorene	680000	
100-01-6	4-Nitroaniline	500000	U
534-52-1	4,6-Dinitro-2-methylphenol	500000	U
86-30-6	N-nitrosodiphenylamine (1)	100000	U
101-55-3	4-Bromophenyl-phenylether	100000	U
118-74-1	Hexachlorobenzene	100000	U
87-86-5	Pentachlorophenol	500000	U
85-01-8	Phenanthrene	1400000	Saturated
120-12-7	Anthracene	460000	
84-74-2	Di-n-butylphthalate	100000	U
206-44-0	Fluoranthene	600000	
129-00-0	Pyrene	600000	
85-68-7	Butylbenzylphthalate	100000	U
91-94-1	3,3'-Dichlorobenzidine	210000	U
56-55-3	Benzo(a)anthracene	270000	
218-01-9	Chrysene	200000	
117-81-7	bis(2-Ethylhexyl)phthalate	100000	U
117-84-0	Di-n-octyl phthalate	100000	U
205-99-2	Benzo(b)fluoranthene	120000	
207-08-9	Benzo(k)fluoranthene	110000	
50-32-8	Benzo(a)pyrene	160000	
193-39-5	Indeno(1,2,3-cd)pyrene	330000	
53-70-3	Dibenz(a,h)anthracene	100000	U
191-24-2	Benzo(g,h,i)perylene	75000	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SOIL4SB1535

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359A SAS No.: _____ SDG No.: B2

Matrix: (soil/water) SOIL Lab Sample ID: 29283

Sample wt/vol: 1.0 (g/mL) G Lab File ID: T4428

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 12 dec. ____ Date Extracted: 09/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/10/90

GPC Cleanup: (Y/N) N pH: 7.00 Dilution Factor: 4.6

Number TICs found: 22

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNK SUBSTITUTED BENZENE	3.48	210000	J
2.		UNKNOWN	3.85	390000	J
3.	77-73-6	4,7-METHANO-1H-INDENE,	4.23	400000	J
4.	95-13-6	1H-INDENE	4.47	520000	J
5.		UNK SUBSTITUTED BENZENE	4.93	130000	J
6.		UNK AROMATIC HYDROCARBON	5.72	380000	J
7.	767-59-9	1H-INDENE, 1-METHYL-	5.78	230000	J
8.		UNK AROMATIC HYDROCARBON	7.60	1300000	J
9.	92-52-4	1;1'-BIPHENYL	8.32	280000	J
10.		UNK SUBSTITUTED NAPHTHALENE	8.47	130000	J
11.		UNK DIMETHYL NAPHTHALENE	8.59	360000	J
12.		UNK DIMETHYL NAPHTHALENE	8.74	480000	J
13.		UNK SUBSTITUTED NAPHTHALENE	8.95	170000	J
14.		UNKNOWN	10.59	160000	J
15.		UNK. POLYCYCLIC AROMATIC	13.24	300000	J
16.		UNK. POLYCYCLIC AROMATIC	13.30	100000	J
17.		UNK. POLYCYCLIC AROMATIC	13.40	360000	J
18.		UNKNOWN	13.79	180000	J
19.		UNK. POLYCYCLIC AROMATIC	14.35	94000	J
20.		UNK. POLYCYCLIC AROMATIC	14.72	94000	J
21.		UNK. POLYCYCLIC AROMATIC	15.67	180000	J
22.		UNK. POLYCYCLIC AROMATIC	15.79	140000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL4SB1535DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359A SAS No.: _____ SDG No.: B2

Matrix: (soil/water) SOIL Lab Sample ID: 29283 DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: T4518

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 12 dec. ____ Date Extracted: 09/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/14/90

GPC Cleanup: (Y/N) N pH: 7.00 Dilution Factor: 18

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410000	U
111-44-4	bis(2-Chloroethyl)ether	410000	U
95-57-8	2-Chlorophenol	410000	U
541-73-1	1,3-Dichlorobenzene	410000	U
106-46-7	1,4-Dichlorobenzene	410000	U
100-51-6	Benzyl alcohol	410000	U
95-50-1	1,2-Dichlorobenzene	410000	U
95-48-7	2-Methylphenol	410000	U
108-60-1	bis(2-Chloroisopropyl)ether	410000	U
106-44-5	4-Methylphenol	410000	U
621-64-7	N-Nitroso-di-n-propylamine	410000	U
67-72-1	Hexachloroethane	410000	U
98-95-3	Nitrobenzene	410000	U
78-59-1	Isophorone	410000	U
88-75-5	2-Nitrophenol	410000	U
105-67-9	2,4-Dimethylphenol	410000	U
65-85-0	Benzoic Acid	2000000	U
111-91-1	bis(2-Chloroethoxy)methane	410000	U
120-83-2	2,4-Dichlorophenol	410000	U
120-82-1	1,2,4-Trichlorobenzene	410000	U
91-20-3	Naphthalene	4600000	D
106-47-8	4-Chloroaniline	410000	U
87-68-3	Hexachlorobutadiene	410000	U
59-50-7	4-Chloro-3-methylphenol	410000	U
91-57-6	2-Methylnaphthalene	2600000	D
77-47-4	Hexachlorocyclopentadiene	410000	U
88-06-2	2,4,6-Trichlorophenol	410000	U
95-95-4	2,4,5-Trichlorophenol	2000000	U
91-58-7	2-Chloronaphthalene	410000	U
88-74-4	2-Nitroaniline	2000000	U
131-11-3	Dimethylphthalate	410000	U
208-96-8	Acenaphthylene	430000	D
606-20-2	2,6-Dinitrotoluene	410000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL4SB1535DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359A SAS No.: _____ SDG No.: B2

Matrix: (soil/water) SOIL Lab Sample ID: 29283 DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: T4518

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 12 dec. ____ Date Extracted: 09/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/14/90

GPC Cleanup: (Y/N) N pH: 7.00 Dilution Factor: 18

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2000000	U
83-32-9	Acenaphthene	830000	D
51-28-5	2,4-Dinitrophenol	2000000	U
100-02-7	4-Nitrophenol	2000000	U
132-64-9	Dibenzofuran	570000	D
121-14-2	2,4-Dinitrotoluene	410000	U
84-66-2	Diethylphthalate	410000	U
7005-72-3	4-Chlorophenyl-phenylether	410000	U
86-73-7	Fluorene	1100000	D
100-01-6	4-Nitroaniline	2000000	U
534-52-1	4,6-Dinitro-2-methylphenol	2000000	U
86-30-6	N-nitrosodiphenylamine (1)	410000	U
101-55-3	4-Bromophenyl-phenylether	410000	U
118-74-1	Hexachlorobenzene	410000	U
87-86-5	Pentachlorophenol	2000000	U
85-01-8	Phenanthrene	2700000	D
120-12-7	Anthracene	750000	D
84-74-2	Di-n-butylphthalate	410000	U
206-44-0	Fluoranthene	1200000	D
129-00-0	Pyrene	1200000	D
85-68-7	Butylbenzylphthalate	410000	U
91-94-1	3,3'-Dichlorobenzidine	820000	U
56-55-3	Benzo(a)anthracene	440000	D
218-01-9	Chrysene	490000	D
117-81-7	bis(2-Ethylhexyl)phthalate	410000	U
117-84-0	Di-n-octyl phthalate	410000	U
205-99-2	Benzo(b)fluoranthene	790000	DJ
207-08-9	Benzo(k)fluoranthene		J
50-32-8	Benzo(a)pyrene	290000	DJ
193-39-5	Indeno(1,2,3-cd)pyrene	410000	U
53-70-3	Dibenz(a,h)anthracene	410000	U
191-24-2	Benzo(g,h,i)perylene	410000	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SOIL4SB1535DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3359A SAS No.: _____ SDG No.: B2

Matrix: (soil/water) SOIL Lab Sample ID: 29283 DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: T4518

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 12 dec. ____ Date Extracted: 09/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/14/90

GPC Cleanup: (Y/N) N pH: 7.00 Dilution Factor: 18

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL4SB1.53.5DL

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: URSNYEM SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 29283

Sample wt/vol: 1 (g/ml) G Lab File ID:

Level: (low/med) MED Date Received: 08/23/90

% Moisture: not dec. 12 dec. Date Extracted: 08/29/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/14/90

GPC Cleanup: (Y/N) N pH: 11.7 Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	680	U
319-85-7	beta-BHC	680	U
319-86-8	delta-BHC	680	U
58-89-9	gamma-BHC (Lindane)	680	U
76-44-8	Heptachlor	680	U
309-00-2	Aldrin	680	U
1024-57-3	Heptachlor Epoxide	680	U
959-98-8	Endosulfan I	680	U
60-57-1	Dieldrin	1400	U
72-55-9	4,4'-DDE	1400	U
72-20-8	Endrin	1400	U
33213-65-9	Endosulfan II	1400	U
72-54-8	4,4'-DDD	1400	U
1031-07-8	Endosulfan Sulfate	1400	U
50-29-3	4,4'-DDT	1400	U
72-43-5	Methoxychlor	6800	U
53494-70-5	Endrin Ketone	1400	U
5103-71-9	alpha-Chlordane	1400	U
5103-74-2	gamma-Chlordane	1400	U
8001-35-2	Toxaphene	14000	U
12674-11-2	Aroclor-1016	6800	U
11104-28-2	Aroclor-1221	6800	U
11141-16-5	Aroclor-1232	6800	U
53469-21-9	Aroclor-1242	6800	U
12672-29-6	Aroclor-1248	6800	U
11097-69-1	Aroclor-1254	14000	U
11096-82-5	Aroclor-1260	14000	U

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SOIL4-

Lab Name: VERSAR_LABORATORIES_INC.___ Contract: 35216.03__

Lab Code: VERSAR Case No.: 3348__ SAS No.: _____ SDG No.: SC10_-

Matrix (soil/water): SOIL_____ Lab Sample ID: 29278_

Level (low/med): LOW_____ Date Received: 08/23/90

% Solids: __83.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6510			P
7440-36-0	Antimony	3.3	U		P
7440-38-2	Arsenic	9.4			F
7440-39-3	Barium	78.3			P
7440-41-7	Beryllium	0.25	B		P
7440-43-9	Cadmium	0.70	U		P
7440-70-2	Calcium	21500			P
7440-47-3	Chromium	9.1			P
7440-48-4	Cobalt	5.7	B		P
7440-50-8	Copper	50.5			P
7439-89-6	Iron	16700			P
7439-92-1	Lead	306			F
7439-95-4	Magnesium	4410			P
7439-96-5	Manganese	545			P
7439-97-6	Mercury	0.71			CV
7440-02-0	Nickel	13.7			P
7440-09-7	Potassium	898	B		P
7782-49-2	Selenium	1.0	B		F
7440-22-4	Silver	0.93	U		P
7440-23-5	Sodium	110	B		P
7440-28-0	Thallium	0.32	B		F
7440-62-2	Vanadium	13.7			P
7440-66-6	Zinc	113			P
	Cyanide	0.59	U		AS

Color Before: BLACK____ Clarity Before: _____ Texture: COARSE

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: YES___

Comments:

_EPA_SAMPLE_NUMBER_SUFFIX_IS_SB_1.5-3.5;_ARTIFACTS_-_GLASS;_____

Versar Laboratories INC

ANALYSIS REPORT
General Inorganic Chemistry Section

DATE: 02-NOV-90
CODE / CONTROL #: URS MONA / 3648
CLIENT / SITE: URS CONSULTANTS / MONARCH
PROJECT / BATCH: 420.71.0 / 5

Lab#	Field #	CYANIDE (ug/L)		
32527	SC-3GW	< 10.0		
32528	SC-5GW **	665.		
32529	M/C-MW3	17.2		

C. Thompson
Laboratory Manager

Versar Laboratories INC

ANALYSIS REPORT
General Inorganic Chemistry Section

DATE: 02-NOV-90 PAGE: 1
CODE / CONTROL #: URS MONA / 3650
CLIENT / SITE: URS CONSULTANTS / MONARCH
PROJECT / BATCH: 420.71.0 / 7

Lab#	Field #	CYANIDE (ug/L)		
32556	SC-10GW	81.4		
32557	SC-2GW	< 10.0		
32558	SC-1GW	99.9		
32559	GWRB-1	< 10.0		
32560	SC-4GW	260.		

C. Thomas
Laboratory Manager

Versar Laboratories INC.

ANALYSIS REPORT
General Inorganic Chemistry Section

DATE: 02-NOV-90
CODE / CONTROL #: URS NYEM / 3658
CLIENT / SITE: URS CONSULTANTS / NY EMULSIONS
PROJECT / BATCH: 421.71.0 / 3

Lab#	Field #	CYANIDE (ug/L)		
32654	NYE SW-1	< 10.0		
32655	NYE SW-2	586.		
32656	NYE SW-3	< 10.0		
32657	NYE SW-4	< 10.0		
32658	M/V MW-15S	554.		

C. Thompson
Laboratory Manager

Versar Laboratories INC

ANALYSIS REPORT
General Inorganic Chemistry Section

DATE: 02-NOV-90
CODE / CONTROL #: URS MONA / 3649
CLIENT / SITE: URS CONSULTANTS / MONARCH
PROJECT / BATCH: 420.71.0 / 6

Lab#	Field #	CYANIDE (ug/L)		
32540	SC-6GW	< 10.0		
32541	M/C-MW4	12.7		
32542	SC-7GW	1,390.		
32543	SC-9GW	21.7		
32544	SC-8GW	43.7		

C. Thompson
Laboratory Manager

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC5GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648A SAS No.: _____ SDG No.: B5

Matrix: (soil/water) WATER Lab Sample ID: 32521

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y3975

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. _____ Date Analyzed: 10/11/90

Column: (pack/cap) CAP Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1000	U
74-83-9	Bromomethane	1000	U
75-01-4	Vinyl chloride	1000	U
75-00-3	Chloroethane	1000	U
75-09-2	Methylene chloride	500	U
67-64-1	Acetone	1000	U
75-15-0	Carbon disulfide	500	U
75-35-4	1,1-Dichloroethene	500	U
75-34-3	1,1-Dichloroethane	500	U
540-59-0	1,2-Dichloroethene (total)	500	U
67-66-3	Chloroform	500	U
107-06-2	1,2-Dichloroethane	500	U
78-93-3	2-Butanone	1000	U
71-55-6	1,1,1-Trichloroethane	500	U
56-23-5	Carbon tetrachloride	500	U
108-05-4	Vinyl acetate	1000	U
75-27-4	Bromodichloromethane	500	U
78-87-5	1,2-Dichloropropane	500	U
10061-01-5	cis-1,3-Dichloropropene	500	U
79-01-6	Trichloroethene	500	U
124-48-1	Dibromochloromethane	500	U
79-00-5	1,1,2-Trichloroethane	500	U
71-43-2	Benzene	2600	
10061-02-6	Trans-1,3-dichloropropene	500	U
75-25-2	Bromoform	500	U
108-10-1	4-Methyl-2-pentanone	1000	U
591-78-6	2-Hexanone	1000	U
127-18-4	Tetrachloroethene	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U
108-88-3	Toluene	600	
108-90-7	Chlorobenzene	500	U
100-41-4	Ethylbenzene	940	
100-42-5	Styrene	500	U
1330-20-7	Total xylenes	1300	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC5GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648A SAS No.: _____ SDG No.: B5

Matrix: (soil/water) WATER Lab Sample ID: 32521

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y3975

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ Date Analyzed: 10/11/90

Column (pack/cap) CAP Dilution Factor: 100

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC5GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32525

Sample wt/vol: 1000 (g/mL) ML Lab File ID: Z6364

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/05/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	100	U
111-44-4	bis(2-Chloroethyl)ether	100	U
95-57-8	2-Chlorophenol	100	U
541-73-1	1,3-Dichlorobenzene	100	U
106-46-7	1,4-Dichlorobenzene	100	U
100-51-6	Benzyl alcohol	85	J
95-50-1	1,2-Dichlorobenzene	100	U
95-48-7	2-Methylphenol	100	U
108-60-1	bis(2-Chloroisopropyl)ether	100	U
106-44-5	4-Methylphenol	100	U
621-64-7	N-Nitroso-di-n-propylamine	100	U
67-72-1	Hexachloroethane	100	U
98-95-3	Nitrobenzene	100	U
78-59-1	Isophorone	100	U
88-75-5	2-Nitrophenol	100	U
105-67-9	2,4-Dimethylphenol	110	
65-85-0	Benzoic Acid	500	U
111-91-1	bis(2-Chloroethoxy)methane	100	U
120-83-2	2,4-Dichlorophenol	100	U
120-82-1	1,2,4-Trichlorobenzene	100	U
91-20-3	Naphthalene	1500	
106-47-8	4-Chloroaniline	100	U
87-68-3	Hexachlorobutadiene	100	U
59-50-7	4-Chloro-3-methylphenol	100	U
91-57-6	2-Methylnaphthalene	640	
77-47-4	Hexachlorocyclopentadiene	100	U
88-06-2	2,4,6-Trichlorophenol	100	U
95-95-4	2,4,5-Trichlorophenol	500	U
91-58-7	2-Chloronaphthalene	100	U
88-74-4	2-Nitroaniline	500	U
131-11-3	Dimethylphthalate	100	U
208-96-8	Acenaphthylene	100	U
606-20-2	2,6-Dinitrotoluene	100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC5GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32525

Sample wt/vol: 1000 (g/mL) ML Lab File ID: Z6364

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/05/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	500	U
83-32-9	Acenaphthene	290	
51-28-5	2,4-Dinitrophenol	500	U
100-02-7	4-Nitrophenol	500	U
132-64-9	Dibenzofuran	140	
121-14-2	2,4-Dinitrotoluene	100	U
84-66-2	Diethylphthalate	100	U
7005-72-3	4-Chlorophenyl-phenylether	100	U
86-73-7	Fluorene	250	
100-01-6	4-Nitroaniline	500	U
534-52-1	4,6-Dinitro-2-methylphenol	500	U
86-30-6	N-nitrosodiphenylamine (1)	100	U
101-55-3	4-Bromophenyl-phenylether	100	U
118-74-1	Hexachlorobenzene	100	U
87-86-5	Pentachlorophenol	500	U
85-01-8	Phenanthrene	590	
120-12-7	Anthracene	170	
84-74-2	Di-n-butylphthalate	100	U
206-44-0	Fluoranthene	320	
129-00-0	Pyrene	300	
85-68-7	Butylbenzylphthalate	100	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo(a)anthracene	100	
218-01-9	Chrysene	99	J
117-81-7	bis(2-Ethylhexyl)phthalate	100	U
117-84-0	Di-n-octyl phthalate	100	U
205-99-2	Benzo(b)fluoranthene	100	U
207-08-9	Benzo(k)fluoranthene	100	U
50-32-8	Benzo(a)pyrene	81	J
193-39-5	Indeno(1,2,3-cd)pyrene	100	U
53-70-3	Dibenz(a,h)anthracene	100	U
191-24-2	Benzo(g,h,i)perylene	100	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC5GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32525

Sample wt/vol: 1000 (g/mL) ML Lab File ID: Z6364

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/05/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	108-88-3	BENZENE, METHYL-	2.33	200	J
2.		UNKNOWN SUBSTITUTED BENZENE	3.33	380	J
3.		UNKNOWN SUBSTITUTED BENZENE	3.42	320	J
4.		UNKNOWN SUBSTITUTED BENZENE	5.53	520	J
5.		UNKNOWN DIEMTHYL PHENOL	7.08	240	J
6.		UNKNOWN	7.53	200	J
7.		UNKN ETHYL METHYL PHENOL	8.17	80	J
8.		UNKNOWN AROMATIC HYDROCARBON	8.92	600	J
9.		UNK POLYAROMATIC HYDROCARBON	9.64	60	J
10.		UNKNOWN SUBSTD NAPHTHALENE	9.80	60	J
11.		UNKNOWN DIMETHYL NAPHTHALENE	9.92	80	J
12.		UNKNOWN SUBSTD NAPHTHALENE	10.09	140	J
13.		UNKNOWN SUBSTD NAPHTHALENE	10.32	40	J
14.		UNKNOWN SUBSTD NAPHTHALENE	10.49	40	J
15.		UNKNOWN	10.99	540	J
16.		UNKNOWN	11.07	100	J
17.		UNKNOWN	12.02	60	J
18.		UNKNOWN	12.60	40	J
19.		UNKNOWN	13.45	80	J
20.		UNKNOWN	14.17	400	J
21.		UNK POLYAROMATIC HYDROCARBON	14.90	120	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC-6GW

1 . Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3649 SAS No.: _____ SDG No.: 6

Matrix: (soil/water) WATER Lab Sample ID: 32530

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y4000

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. _____ Date Analyzed: 10/12/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	8	
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	23	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC-6GW

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3649 SAS No.: _____ SDG No.: 6

Matrix: (soil/water) WATER Lab Sample ID: 32530

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y4000

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. _____ Date Analyzed: 10/12/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	108-87-2	CYCLOHEXANE, METHYL-	12.69	4.0	J
2.	1678-91-7	CYCLOHEXANE, ETHYL-	16.32	3.0	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC6GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32535

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6372

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/05/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	49	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	180	S
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	120	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	49	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	49	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	36	
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC6GW

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32535

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6372

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/05/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	49	U
83-32-9	Acenaphthene	74	
51-28-5	2,4-Dinitrophenol	49	U
100-02-7	4-Nitrophenol	49	U
132-64-9	Dibenzofuran	7	J
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	58	
100-01-6	4-Nitroaniline	49	U
534-52-1	4,6-Dinitro-2-methylphenol	49	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	49	U
85-01-8	Phenanthrene	83	
120-12-7	Anthracene	19	
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	18	
129-00-0	Pyrene	16	
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC6GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32535

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6372

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/05/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.62	47	J
2.		UNKNOWN SUBSTITUTED BENZENE	5.62	90	J
3.		UNKNOWN SUBSTITUTED BENZENE	5.73	29	J
4.		UNKNOWN SUBSTITUTED BENZENE	6.92	20	J
5.		UNKNOWN SUBSTITUTED BENZENE	7.07	78	J
6.		UNK POLYAROMATIC HYDROCARBON	9.04	220	J
7.		UNKNOWN	7.63	49	J
8.		UNKNOWN SUBSTD NAPHTHALENE	9.92	16	J
9.		UNKNOWN DIMETHYL NAPHTHALENE	10.04	51	J
10.		UNKNOWN SUBSTD NAPHTHALENEE	10.22	94	J
11.		UNKNOWN SUBSTD NAPHTHALENE	10.44	31	J
12.		UNKNOWN SUBSTD NAPHTHALENE	11.55	18	J
13.		UNKNOWN HYDROCARBON	12.75	45	J
14.		UNKNOWN	13.59	29	J
15.		UNKNOWN HYDROCARBON	13.69	24	J
16.		UNK POLYAROMATIC HYDROCARBON	14.87	18	J
17.		UNK POLYAROMATIC HYDROCARBON	15.05	24	J
18.		UNKNOWN	16.05	29	J
19.		UNKNOWN ORGANIC ACID ESTER	18.27	18	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC6GWDL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32535DL

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6385

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	98	U
111-44-4	bis(2-Chloroethyl)ether	98	U
95-57-8	2-Chlorophenol	98	U
541-73-1	1,3-Dichlorobenzene	98	U
106-46-7	1,4-Dichlorobenzene	98	U
100-51-6	Benzyl alcohol	98	U
95-50-1	1,2-Dichlorobenzene	98	U
95-48-7	2-Methylphenol	98	U
108-60-1	bis(2-Chloroisopropyl)ether	98	U
106-44-5	4-Methylphenol	98	U
621-64-7	N-Nitroso-di-n-propylamine	98	U
67-72-1	Hexachloroethane	98	U
98-95-3	Nitrobenzene	98	U
78-59-1	Isophorone	98	U
88-75-5	2-Nitrophenol	98	U
105-67-9	2,4-Dimethylphenol	98	U
65-85-0	Benzoic Acid	490	U
111-91-1	bis(2-Chloroethoxy)methane	98	U
120-83-2	2,4-Dichlorophenol	98	U
120-82-1	1,2,4-Trichlorobenzene	98	U
91-20-3	Naphthalene	180	D
106-47-8	4-Chloroaniline	98	U
87-68-3	Hexachlorobutadiene	98	U
59-50-7	4-Chloro-3-methylphenol	98	U
91-57-6	2-Methylnaphthalene	120	D
77-47-4	Hexachlorocyclopentadiene	98	U
88-06-2	2,4,6-Trichlorophenol	98	U
95-95-4	2,4,5-Trichlorophenol	490	U
91-58-7	2-Chloronaphthalene	98	U
88-74-4	2-Nitroaniline	490	U
131-11-3	Dimethylphthalate	98	U
208-96-8	Acenaphthylene	98	U
606-20-2	2,6-Dinitrotoluene	98	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC6GWDL

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32535DL

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6385

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	490	U
83-32-9	Acenaphthene	98	U
51-28-5	2,4-Dinitrophenol	490	U
100-02-7	4-Nitrophenol	490	U
132-64-9	Dibenzofuran	98	U
121-14-2	2,4-Dinitrotoluene	98	U
84-66-2	Diethylphthalate	98	U
7005-72-3	4-Chlorophenyl-phenylether	98	U
86-73-7	Fluorene	98	U
100-01-6	4-Nitroaniline	490	U
534-52-1	4,6-Dinitro-2-methylphenol	490	U
86-30-6	N-nitrosodiphenylamine (1)	98	U
101-55-3	4-Bromophenyl-phenylether	98	U
118-74-1	Hexachlorobenzene	98	U
87-86-5	Pentachlorophenol	490	U
85-01-8	Phenanthrene	98	U
120-12-7	Anthracene	98	U
84-74-2	Di-n-butylphthalate	98	U
206-44-0	Fluoranthene	98	U
129-00-0	Pyrene	98	U
85-68-7	Butylbenzylphthalate	98	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo(a)anthracene	98	U
218-01-9	Chrysene	98	U
117-81-7	bis(2-Ethylhexyl)phthalate	98	U
117-84-0	Di-n-octyl phthalate	98	U
205-99-2	Benzo(b)fluoranthene	98	U
207-08-9	Benzo(k)fluoranthene	98	U
50-32-8	Benzo(a)pyrene	98	U
193-39-5	Indeno(1,2,3-cd)pyrene	98	U
53-70-3	Dibenz(a,h)anthracene	98	U
191-24-2	Benzo(g,h,i)perylene	98	U

(1) - Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC-7GW

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3649 SAS No.: _____ SDG No.: 6

Matrix: (soil/water) WATER Lab Sample ID: 32532

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y3994

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. _____ Date Analyzed: 10/12/90

Column: (pack/cap) CAP Dilution Factor: 20

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	200	U
74-83-9	Bromomethane	200	U
75-01-4	Vinyl chloride	200	U
75-00-3	Chloroethane	200	U
75-09-2	Methylene chloride	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon disulfide	100	U
75-35-4	1,1-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	100	U
540-59-0	1,2-Dichloroethene (total)	100	U
67-66-3	Chloroform	100	U
107-06-2	1,2-Dichloroethane	100	U
78-93-3	2-Butanone	200	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon tetrachloride	100	U
108-05-4	Vinyl acetate	200	U
75-27-4	Bromodichloromethane	100	U
78-87-5	1,2-Dichloropropane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
79-01-6	Trichloroethene	100	U
124-48-1	Dibromochloromethane	100	U
79-00-5	1,1,2-Trichloroethane	100	U
71-43-2	Benzene	1000	
10061-02-6	Trans-1,3-dichloropropene	100	U
75-25-2	Bromoform	100	U
108-10-1	4-Methyl-2-pentanone	200	U
591-78-6	2-Hexanone	200	U
127-18-4	Tetrachloroethene	100	U
79-34-5	1,1,2,2-Tetrachloroethane	100	U
108-88-3	Toluene	160	
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	100	U
100-42-5	Styrene	100	U
1330-20-7	Total xylenes	580	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC-7GW

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3649 SAS No.: _____ SDG No.: 6

Matrix: (soil/water) WATER Lab Sample ID: 32532

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y3994

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ Date Analyzed: 10/12/90

Column (pack/cap) CAP Dilution Factor: 20

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN AROMATIC HYDROCARBON	9.64	20	J
2.		UNKNOWN	13.12	20	J
3.		UNKNOWN AROMATIC HYDROCARBON	14.19	40	J
4.		UNKNOWN	18.54	20	J
5.		UNKNOWN AROMATIC HYDROCARBON	19.82	100	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC7GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32537

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6384

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	49	U
111-44-4	bis(2-Chloroethyl)ether	49	U
95-57-8	2-Chlorophenol	49	U
541-73-1	1,3-Dichlorobenzene	49	U
106-46-7	1,4-Dichlorobenzene	49	U
100-51-6	Benzyl alcohol	49	U
95-50-1	1,2-Dichlorobenzene	49	U
95-48-7	2-Methylphenol	300	
108-60-1	bis(2-Chloroisopropyl)ether	49	U
106-44-5	4-Methylphenol	120	
621-64-7	N-Nitroso-di-n-propylamine	49	U
67-72-1	Hexachloroethane	49	U
98-95-3	Nitrobenzene	49	U
78-59-1	Isophorone	49	U
88-75-5	2-Nitrophenol	49	U
105-67-9	2,4-Dimethylphenol	690	
65-85-0	Benzoic Acid	240	U
111-91-1	bis(2-Chloroethoxy)methane	49	U
120-83-2	2,4-Dichlorophenol	49	U
120-82-1	1,2,4-Trichlorobenzene	49	U
91-20-3	Naphthalene	77	
106-47-8	4-Chloroaniline	49	U
87-68-3	Hexachlorobutadiene	49	U
59-50-7	4-Chloro-3-methylphenol	49	U
91-57-6	2-Methylnaphthalene	67	
77-47-4	Hexachlorocyclopentadiene	49	U
88-06-2	2,4,6-Trichlorophenol	49	U
95-95-4	2,4,5-Trichlorophenol	240	U
91-58-7	2-Chloronaphthalene	49	U
88-74-4	2-Nitroaniline	240	U
131-11-3	Dimethylphthalate	49	U
208-96-8	Acenaphthylene	41	J
606-20-2	2,6-Dinitrotoluene	49	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC7GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32537

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6384

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 5.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	240	U
83-32-9	Acenaphthene	300	
51-28-5	2,4-Dinitrophenol	240	U
100-02-7	4-Nitrophenol	240	U
132-64-9	Dibenzofuran	160	
121-14-2	2,4-Dinitrotoluene	49	U
84-66-2	Diethylphthalate	49	U
7005-72-3	4-Chlorophenyl-phenylether	49	U
86-73-7	Fluorene	220	
100-01-6	4-Nitroaniline	240	U
534-52-1	4,6-Dinitro-2-methylphenol	240	U
86-30-6	N-nitrosodiphenylamine (1)	49	U
101-55-3	4-Bromophenyl-phenylether	49	U
118-74-1	Hexachlorobenzene	49	U
87-86-5	Pentachlorophenol	240	U
85-01-8	Phenanthrene	410	
120-12-7	Anthracene	68	
84-74-2	Di-n-butylphthalate	49	U
206-44-0	Fluoranthene	140	
129-00-0	Pyrene	100	
85-68-7	Butylbenzylphthalate	49	U
91-94-1	3,3'-Dichlorobenzidine	98	U
56-55-3	Benzo(a)anthracene	35	J
218-01-9	Chrysene	35	J
117-81-7	bis(2-Ethylhexyl)phthalate	49	U
117-84-0	Di-n-octyl phthalate	49	U
205-99-2	Benzo(b)fluoranthene	49	U
207-08-9	Benzo(k)fluoranthene	49	U
50-32-8	Benzo(a)pyrene	49	U
193-39-5	Indeno(1,2,3-cd)pyrene	49	U
53-70-3	Dibenz(a,h)anthracene	49	U
191-24-2	Benzo(g,h,i)perylene	49	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC7GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32537

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6384

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 5.0

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN SUBSTITUTED BENZENE	3.38	130	J
2.		UNKNOWN SUBSTITUTED BENZENE	5.47	300	J
3.		UNKNOWN SUBSTITUTED PHENOL	6.33	490	J
4.		UNKNOWN DIMETHYL PHENOL	7.07	1500	J
5.		UNKNOWN DIMETHYL PHENOL	7.18	260	J
6.		UNKNOWN TRIMETHYL PHENOL	7.50	140	J
7.		UNKNOWN	7.88	110	J
8.		UNKNOWN SUBSTITUTED PHENOL	8.10	150	J
9.		UNKNOWN TRIMETHYL PHENOL	8.27	120	J
10.		UNKNOWN	8.50	260	J
11.		UNKNOWN AROMATIC HYDROCARBON	8.84	380	J
12.		UNKNOWN SUBSTD NAPHTHALENE	10.00	98	J
13.		UNKNOWN ORGANIC ACID	11.64	110	J
14.		UNKNOWN	12.57	110	J
15.		UNKNOWN ORGANIC ACID	12.75	78	J
16.		UNKNOWN	12.95	140	J
17.		UNK POLYAROMATIC HYDROCARBON	14.80	49	J
18.		UNKNOWN	15.82	69	J
19.		UNKNOWN	16.92	20	J
20.		UNKNOWN	17.12	69	J
21.		UNKNOWN	19.57	20	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC-8GW

1 Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3649 SAS No.: _____ SDG No.: 6

Matrix: (soil/water) WATER Lab Sample ID: 32534

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y3992

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ Date Analyzed: 10/12/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	3	J
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	20	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC-8GW

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3649 SAS No.: _____ SDG No.: 6

Matrix: (soil/water) WATER Lab Sample ID: 32534

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y3992

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ Date Analyzed: 10/12/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN AROMATIC HYDROCARBON	14.27	7.0	J
2.		UNKNOWN SUBSTITUTED BENZENE	15.77	11	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC8GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32539

Sample wt/vol: 1000 (g/mL) ML Lab File ID: Z6387

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	8	J
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC8GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32539

Sample wt/vol: 1000 (g/mL) ML Lab File ID: Z6387

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	72	
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	9	J
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	12	
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

200106

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: SC8GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32539

Sample wt/vol: 1000 (g/mL) ML Lab File ID: Z6387

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 21 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN SUBSTD NAPHTHALENE	5.28	28	J
2.		UNKNOWN SUBSTITUTED BENZENE	5.48	60	J
3.		UNKNOWN DIMETHYL PHENOL	6.33	16	J
4.		UNKNOWN SUBSTITUTED BENZENE	6.90	24	J
5.		UNKNOWN DIMETHYL PHENOL	7.03	44	J
6.		UNKNOWN TRIMETHYL PHENOL	7.50	18	J
7.		UNKNOWN AROMATIC HYDROCARBON	7.68	42	J
8.		UNKNOWN	7.92	170	J
9.		UNKNOWN	8.50	32	J
10.		UNKNOWN	8.84	18	J
11.		UNKNOWN SUBSTD BENZOIC ACID	9.09	18	J
12.		UNKNOWN SUBSTD NAPHTHALENE	10.02	14	J
13.		UNKNOWN SUBSTD NAPHTHALENE	10.02	14	J
14.		UNKNOWN	11.67	36	J
15.		UNKNOWN	12.52	38	J
16.		UNKNOWN ORGANIC ACID	12.64	24	J
17.		UNKNOWN	15.85	120	J
18.		UNKNOWN ORGANIC ACID	18.05	120	J
19.		UNKNOWN	20.80	24	J
20.		UNKNOWN	20.69	14	J
21.		UNKNOWN	21.70	14	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC-9GW

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3649 SAS No.: _____ SDG No.: 6

Matrix: (soil/water) WATER Lab Sample ID: 32533

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y3991

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ Date Analyzed: 10/12/90

Column: (pack/cap) CAP Dilution Factor: 20

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	200	U
74-83-9	Bromomethane	200	U
75-01-4	Vinyl chloride	200	U
75-00-3	Chloroethane	200	U
75-09-2	Methylene chloride	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon disulfide	100	U
75-35-4	1,1-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	100	U
540-59-0	1,2-Dichloroethene (total)	100	U
67-66-3	Chloroform	100	U
107-06-2	1,2-Dichloroethane	100	U
78-93-3	2-Butanone	200	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon tetrachloride	100	U
108-05-4	Vinyl acetate	200	U
75-27-4	Bromodichloromethane	100	U
78-87-5	1,2-Dichloropropane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
79-01-6	Trichloroethene	100	U
124-48-1	Dibromochloromethane	100	U
79-00-5	1,1,2-Trichloroethane	100	U
71-43-2	Benzene	1500	
10061-02-6	Trans-1,3-dichloropropene	100	U
75-25-2	Bromoform	100	U
108-10-1	4-Methyl-2-pentanone	200	U
591-78-6	2-Hexanone	200	U
127-18-4	Tetrachloroethene	100	U
79-34-5	1,1,2,2-Tetrachloroethane	100	U
108-88-3	Toluene	760	
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	600	
100-42-5	Styrene	100	U
1330-20-7	Total xylenes	680	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC-9GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3649 SAS No.: _____ SDG No.: 6

Matrix: (soil/water) WATER Lab Sample ID: 32533

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: Y3991

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. _____ Date Analyzed: 10/12/90

Column (pack/cap) CAP Dilution Factor: 20

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32538

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6368

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/05/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2300	
111-44-4	bis(2-Chloroethyl)ether	98	U
95-57-8	2-Chlorophenol	98	U
541-73-1	1,3-Dichlorobenzene	98	U
106-46-7	1,4-Dichlorobenzene	98	U
100-51-6	Benzyl alcohol	98	U
95-50-1	1,2-Dichlorobenzene	98	U
95-48-7	2-Methylphenol	840	
108-60-1	bis(2-Chloroisopropyl)ether	98	U
106-44-5	4-Methylphenol	2100	
621-64-7	N-Nitroso-di-n-propylamine	98	U
67-72-1	Hexachloroethane	98	U
98-95-3	Nitrobenzene	98	U
78-59-1	Isophorone	98	U
88-75-5	2-Nitrophenol	98	U
105-67-9	2,4-Dimethylphenol	530	
65-85-0	Benzoic Acid	490	U
111-91-1	bis(2-Chloroethoxy)methane	98	U
120-83-2	2,4-Dichlorophenol	98	U
120-82-1	1,2,4-Trichlorobenzene	98	U
91-20-3	Naphthalene	4200	E
106-47-8	4-Chloroaniline	98	U
87-68-3	Hexachlorobutadiene	98	U
59-50-7	4-Chloro-3-methylphenol	98	U
91-57-6	2-Methylnaphthalene	460	
77-47-4	Hexachlorocyclopentadiene	98	U
88-06-2	2,4,6-Trichlorophenol	98	U
95-95-4	2,4,5-Trichlorophenol	490	U
91-58-7	2-Chloronaphthalene	98	U
88-74-4	2-Nitroaniline	490	U
131-11-3	Dimethylphthalate	98	U
208-96-8	Acenaphthylene	98	U
606-20-2	2,6-Dinitrotoluene	98	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9GW

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32538

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6368

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/05/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	490	U
83-32-9	Acenaphthene	130	X
51-28-5	2,4-Dinitrophenol	490	U
100-02-7	4-Nitrophenol	490	U
132-64-9	Dibenzofuran	170	
121-14-2	2,4-Dinitrotoluene	98	U
84-66-2	Diethylphthalate	98	U
7005-72-3	4-Chlorophenyl-phenylether	98	U
86-73-7	Fluorene	190	
100-01-6	4-Nitroaniline	490	U
534-52-1	4,6-Dinitro-2-methylphenol	490	U
86-30-6	N-nitrosodiphenylamine (1)	98	U
101-55-3	4-Bromophenyl-phenylether	98	U
118-74-1	Hexachlorobenzene	98	U
87-86-5	Pentachlorophenol	490	U
85-01-8	Phenanthrene	320	
120-12-7	Anthracene	98	U
84-74-2	Di-n-butylphthalate	98	U
206-44-0	Fluoranthene	100	
129-00-0	Pyrene	92	J
85-68-7	Butylbenzylphthalate	98	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo(a)anthracene	98	U
218-01-9	Chrysene	98	U
117-81-7	bis(2-Ethylhexyl)phthalate	98	U
117-84-0	Di-n-octyl phthalate	98	U
205-99-2	Benzo(b)fluoranthene	98	U
207-08-9	Benzo(k)fluoranthene	98	U
50-32-8	Benzo(a)pyrene	98	U
193-39-5	Indeno(1,2,3-cd)pyrene	98	U
53-70-3	Dibenz(a,h)anthracene	98	U
191-24-2	Benzo(g,h,i)perylene	98	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SC9GW

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32538

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6368

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/05/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10.0

Number TICs found: 18

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN HYDROCARBON	2.40	140	J
2.		UNKNOWN SUBSTITUTED BENZENE	3.40	140	J
3.		UNKNOWN SUBSTITUTED BENZENE	3.50	140	J
4.		UNKNOWN SUBSTITUTED BENZENE	3.78	120	J
5.		UNKN ETHYL METHYL BENZENE	4.63	120	J
6.		UNKNOWN SUBSTITUTED BENZENE	5.03	140	J
7.	496-11-7	1H-INDENE, 2,3-DIHYDRO-	5.62	370	J
8.					
9.		UNKNOWN AROMATIC HYDROCARBON	7.05	140	J
10.		UNKNOWN SUBSTITUTED PHENOL	7.18	650	J
11.	95-15-8	BENZO[B]THIOPHENE	7.63	270	J
12.		UNKNOWN	8.67	140	J
13.		UNKNOWN AROMATIC HYDROCARBON	9.02	430	J
14.		UNK POLYAROMATIC HYDROCARBON	9.75	78	J
15.		UNKNOWN	11.69	290	J
16.		UNKNOWN	13.02	240	J
17.		UNKNOWN	14.29	250	J
18.		UNKNOWN	16.04	200	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9GWDL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32538DL

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6386

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 200

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2800	D
111-44-4	bis(2-Chloroethyl)ether	2000	U
95-57-8	2-Chlorophenol	2000	U
541-73-1	1,3-Dichlorobenzene	2000	U
106-46-7	1,4-Dichlorobenzene	2000	U
100-51-6	Benzyl alcohol	2000	U
95-50-1	1,2-Dichlorobenzene	2000	U
95-48-7	2-Methylphenol	2000	U
108-60-1	bis(2-Chloroisopropyl)ether	2000	U
106-44-5	4-Methylphenol	1900	DJ
621-64-7	N-Nitroso-di-n-propylamine	2000	U
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	2000	U
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
65-85-0	Benzoic Acid	9800	U
111-91-1	bis(2-Chloroethoxy)methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
120-82-1	1,2,4-Trichlorobenzene	2000	U
91-20-3	Naphthalene	5900	D
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
59-50-7	4-Chloro-3-methylphenol	2000	U
91-57-6	2-Methylnaphthalene	2000	U
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	9800	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	9800	U
131-11-3	Dimethylphthalate	2000	U
208-96-8	Acenaphthylene	2000	U
606-20-2	2,6-Dinitrotoluene	2000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC9GWDL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3648 SAS No.: _____ SDG No.: 5-7

Matrix: (soil/water) WATER Lab Sample ID: 32538DL

Sample wt/vol: 1020 (g/mL) ML Lab File ID: Z6386

Level: (low/med) LOW Date Received: 10/05/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 11/06/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 200

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	9800	U
83-32-9	Acenaphthene	2000	U
51-28-5	2,4-Dinitrophenol	9800	U
100-02-7	4-Nitrophenol	9800	U
132-64-9	Dibenzofuran	2000	U
121-14-2	2,4-Dinitrotoluene	2000	U
84-66-2	Diethylphthalate	2000	U
7005-72-3	4-Chlorophenyl-phenylether	2000	U
86-73-7	Fluorene	2000	U
100-01-6	4-Nitroaniline	9800	U
534-52-1	4,6-Dinitro-2-methylphenol	9800	U
86-30-6	N-nitrosodiphenylamine (1)	2000	U
101-55-3	4-Bromophenyl-phenylether	2000	U
118-74-1	Hexachlorobenzene	2000	U
87-86-5	Pentachlorophenol	9800	U
85-01-8	Phenanthrene	2000	U
120-12-7	Anthracene	2000	U
84-74-2	Di-n-butylphthalate	2000	U
206-44-0	Fluoranthene	2000	U
129-00-0	Pyrene	2000	U
85-68-7	Butylbenzylphthalate	2000	U
91-94-1	3,3'-Dichlorobenzidine	3900	U
56-55-3	Benzo(a)anthracene	2000	U
218-01-9	Chrysene	2000	U
117-81-7	bis(2-Ethylhexyl)phthalate	2000	U
117-84-0	Di-n-octyl phthalate	2000	U
205-99-2	Benzo(b)fluoranthene	2000	U
207-08-9	Benzo(k)fluoranthene	2000	U
50-32-8	Benzo(a)pyrene	2000	U
193-39-5	Indeno(1,2,3-cd)pyrene	2000	U
53-70-3	Dibenz(a,h)anthracene	2000	U
191-24-2	Benzo(g,h,i)perylene	2000	U

(1) - Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NYESW4

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3658A SAS No.: _____ SDG No.: B3

Matrix: (soil/water) WATER Lab Sample ID: 32665

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: U5602

Level: (low/med) LOW Date Received: 10/06/90

% Moisture: not dec. ____ Date Analyzed: 10/11/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	15	
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	4	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	8	
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	13	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NYESW4

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3658A SAS No.: _____ SDG No.: B3

Matrix: (soil/water) WATER Lab Sample ID: 32665

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: U5602

Level: (low/med) LOW Date Received: 10/06/90

% Moisture: not dec. ____ Date Analyzed: 10/11/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.70	9.6	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NYESW4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3658B SAS No.: _____ SDG No.: B3

Matrix: (soil/water) WATER Lab Sample ID: 32663

Sample wt/vol: 1030 (g/mL) ML Lab File ID: T4780

Level: (low/med) LOW Date Received: 10/06/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/09/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/29/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	49	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	49	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	49	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NYESW4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3658B SAS No.: _____ SDG No.: B3

Matrix: (soil/water) WATER Lab Sample ID: 32663

Sample wt/vol: 1030 (g/mL) ML Lab File ID: T4780

Level: (low/med) LOW Date Received: 10/06/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/09/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/29/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	49	U
83-32-9	Acenaphthene	20	
51-28-5	2,4-Dinitrophenol	49	U
100-02-7	4-Nitrophenol	49	U
132-64-9	Dibenzofuran	17	
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	23	X
100-01-6	4-Nitroaniline	49	U
534-52-1	4,6-Dinitro-2-methylphenol	49	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	49	U
85-01-8	Phenanthrene	21	
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NYESW4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 3658B SAS No.: _____ SDG No.: B3

Matrix: (soil/water) WATER Lab Sample ID: 32663

Sample wt/vol: 1030 (g/mL) ML Lab File ID: T4780

Level: (low/med) LOW Date Received: 10/06/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/09/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/29/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 17

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.90	50	J
2.		UNKNOWN SUBSTITUTED BENZENE	3.13	9.7	J
3.	95-47-6	BENZENE, 1,2-DIMETHYL-	3.50	7.8	J
4.	108-67-8	BENZENE, 1,3,5-TRIMETHYL-	4.72	17	J
5.		UNKNOWN SUBSTITUTED BENZENE	5.08	9.7	J
6.		UNKNOWN AROMATIC HYDROCARBON	5.25	45	J
7.		UNKNOWN AROMATIC HYDROCARBON	6.73	5.8	J
8.		UNKNOWN SUBSTD PHENOL	6.80	16	J
9.	95-15-8	BENZO[B]THIOPHENE	7.20	9.7	J
10.		UNKNOWN	8.59	27	J
11.		UNKNOWN	11.07	9.7	J
12.		UNKNOWN	13.77	27	J
13.		UNKNOWN	14.45	29	J
14.	57-10-3	HEXADECANOIC ACID	14.59	12	J
15.	81-84-5	1,8-NAPHTHALIC ANHYDRIDE	15.47	17	J
16.		UNKNOWN	16.82	16	J
17.		UNKNOWN	17.72	21	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NYESW4

Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: URSNYEM SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 32659

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 10/06/90

% Moisture: not dec. 0.00 dec. Date Extracted: 10/08/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/16/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

OEB 10/22/90

10/18/90

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SW-4

Lab Name: VERSAR_LABORATORIES_INC.___ Contract: 35216.03_

Lab Code: VERSAR Case No.: 3658__ SAS No.: _____ SDG No.: SW-4

Matrix (soil/water): WATER_____ Lab Sample ID: 32653_

Level (low/med): LOW_____ Date Received: 10/06/90

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	985			P
7440-36-0	Antimony	23.0	U		P
7440-38-2	Arsenic	3.2	B		F
7440-39-3	Barium	119	B		P
7440-41-7	Beryllium	4.7	B		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	75000			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	5.0	U		P
7440-50-8	Copper	8.3	B		P
7439-89-6	Iron	7630			P
7439-92-1	Lead	9.8			F
7439-95-4	Magnesium	6080			P
7439-96-5	Manganese	546			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	18700			P
7782-49-2	Selenium	3.0	U		F
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	11900			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	10.5	B		P
7440-66-6	Zinc	55.5			P
	Cyanide				NR

Color Before: BROWN____ Clarity Before: CLEAR_ Texture: _____

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

THE_EPA_SAMPLE_NUMBER_IS:_"NYE_SW-4"

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NYETAR1

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: URSNYEM SAS No.: SDG No.:

Matrix: (soil/water) LEACHATE Lab Sample ID: 23683

Sample wt/vol: 20 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 10/06/90

% Moisture: not dec. dec. Date Extracted: 10/18/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/27/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
58-89-9	gamma-BHC (Lindane)	1.3	U
72-20-8	Endrin	2.5	U
72-43-5	Methoxychlor	13	U
8001-35-2	Toxaphene	25	U

R 10/29/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

NYE TAR-1

Client : URS_CONSULTANTS_____ Site: NY_EMULSIONS_

Lab Name: VERSAR_INC. Control No.: 3660____ Code: URS_NYEM Batch: 4_____

Matrix : EXTRACT_____ Lab Sample ID: 32683____

Level (low/med): _____ Date Received: 10/06/90_

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	23.0	U		P
7440-39-3	Barium	56.4			P
7440-43-9	Cadmium	5.0	U		P
7440-47-3	Chromium	5.0	U		P
7439-92-1	Lead	16.0	U		P
7439-97-6	Mercury	0.20	U		CV
7782-49-2	Selenium	3.0	U		F
7440-22-4	Silver	2.0	U		P

Color Before: PINK_____ Clarity Before: CLEAR_ Texture: _____

Color After : YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

EP_TOXICITY_EXTRACT_____

FORM I - IN

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NYE TAR-1

Lab Name: VERSAR, INC. Contract:

b Code: VERSAR Case No.: URS NYEM SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 32683

Sample wt/vol: 20 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 10/06/90

% Moisture: not dec. dec. Date Extracted: 10/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/24/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
94-75-7	2,4 D	400	U
93-72-1	Silvex	400	U

10/24/90

Versar Laboratories INC.

General Chemistry Section
ANALYSIS REPORT

DATE: 05-Nov-90 PAGE: 1
CODE / CONTROL #: URS NYEM / 3660
CLIENT / SITE: URS Consultants / NY Emulsions
PROJECT / BATCH: 420.71 / 4

LAB #	FIELD #	pH	Flashpoint (°F)	Reactive Cyanide (mg/kg)	Reactive Sulfide (mg/kg)
32683	NYE TAR-1	6.63*	>158.	<0.21	<42.6

* = By definition, sample is non-corrosive.

A. Thompson
LABORATORY MANAGER

APPENDIX H

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

47-15-23 (11/90)—9d

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

Original—BHSC
Copy—REGION
Copy—DEE
Copy—DOH
Copy—PREPARER

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

1. SITE NAME	2. SITE NO.	3. TOWN	4. COUNTY
N.Y. Emulsions Tar Products	633031	Utica	Oneida

5. REGION	6. CLASSIFICATION	7. ACTIVITY
6	Current 2a /Proposed ____	☐ Add ☐ Reclassify ☐ Delist ☐ Modify ____

8a. DESCRIBE LOCATION OF SITE (Attach U.S.G.S Topographic Map showing site location)
NYS Thruway Exit 31 to Genesee St. South. Approximately 3/4 mile south on Genesee to Lee Street. Turn right on Lee Street to Meadow Street. The site is located on Washington Street.

b. Quadrangle Utica East c Site Latitude 43o 06' 37" Longitude 75o 13' 38" d Tax Map Number 318-08-1

9a BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)
The site is the former location of a plant which manufactured creosote, pitch and road tar from coal gasification residue. All buildings have been removed and the lagoon has been filled and graded. Depth to groundwater varies from 1 to 5 feet across the site.

b Area 3 acres c EPA ID Number NYD 986866390 d PA/SI ☐ Yes ☒ No

e Completed ☒ Phase I ☒ Phase II ☐ PSA ☐ Sampling

10 BRIEFLY LIST THE TYPE AND QUANTITY OF THE HAZARDOUS WASTE AND THE DATES THAT IT WAS DISPOSED OF AT THIS SITE
An unknown quantity of waste from the processing of coal gasification residue between 1926 and 1984.

11a SUMMARIZED SAMPLING DATA ATTACHED
☐ Air ☒ Groundwater ☒ Surface Water ☒ Soil ☒ Waste ☒ EP Tox ☐ TCLP

b List contravened parameters and values
Groundwater: Benzene 2,600 ppb, Toluene 760ppb, Ethylbenzene 940 ppb, total xylenes 1,300 ppb, phenol 2,300 ppb, Napthalene 5,900 ppb, Acenaphthene 300 ppb, Fluorene 250 ppb, phenanthrene 590 ppb, anthracene 170 ppb, Fluoranthene 320 ppb, Pyrene 320 ppb, Benzo (A) Anthracene 100 ppb, Chrysene 99 ppb, Benzo (A) pyrene 81 ppb.

12 SITE IMPACT DATA

a Nearest surface water Distance 400 ft Direction east Classification "C"

b Nearest groundwater Depth > 2 ft Flow Direction east ☐ Sole Source ☐ Primary ☐ Principal

c Nearest water supply Distance 500 ft Direction south Active ☐ Yes ☒ No

d Nearest building Distance 500 ft Direction south Use office/warehouse

e Crops or livestock on site? ☐ Yes ☒ No

f Exposed hazardous waste? ☐ Yes ☒ No

g Controlled site access? ☐ Yes ☒ No

h Documented fish or wildlife mortality? ☐ Yes ☒ No

i Impact on special status fish or wildlife resource? unknown

j Within a State Economic Development Zone? ☐ Yes ☒ No

k For Class 2a. Code ____ Health Model Score ____

l For Class 2 Priority Category ____

m HRS Score Sm= 6.39, Sfe=0.00, SDC=62.50

n Significant Threat ☐ Yes ____ ☒ No ☐ Uncertain

13 SITE OWNER'S NAME	14 ADDRESS	15 TELEPHONE NUMBER
Suit -Kote	P.O. Box 5160 Cortland, N.Y.	(601 753-6085

16 PREPARER
Phyllis Rettke/Geologist/URS Consultants, Inc.
Name Title and Organization
2/8/91 Date
Phyllis S Rettke Signature

17 APPROVED
Name Title and Organization
Date
Signature